

THE AMERICAN PSYCHOLOGIST

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THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 1

October, 1946

Number 10

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THE AMERICAN PSYCHOLOGIST is published monthly by the American Psychological Association, Inc., at Mount Royal and Guilford Avenues, Baltimore 2, Maryland. Subscription: \$7.00, single copy \$.75. Communications on business matters should be addressed to Publishers, The American Psychologist, Mount Royal and Guilford Avenues, Baltimore 2, Maryland, or the American Psychological Association, Inc., 1515 Massachusetts Ave., N.W., Washington 5, D. C. Address communications on editorial matters to 1515 Massachusetts Ave., N.W., Washington 5, D. C.

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Entered as second-class matter January 9th, 1946 at the Post Office at Baltimore, Md., under the Act of March 3rd, 1879.

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SIGNIFICANT ASPECTS OF CLIENT-CENTERED THERAPY¹

CARL R. ROGERS

University of Chicago

IN PLANNING to address this group, I have considered and discarded several possible topics. I was tempted to describe the process of non-directive therapy and the counselor techniques and procedures which seem most useful in bringing about this process. But much of this material is now in writing. My own book on counseling and psychotherapy contains much of the basic material, and my recent more popular book on counseling with returning servicemen tends to supplement it. The philosophy of the client-centered approach and its application to work with children is persuasively presented by Allen. The application to counseling of industrial employees is discussed in the volume by Cantor. Curran has now published in book form one of the several research studies which are throwing new light on both process and procedure. Axline is publishing a book on play and group therapy. Snyder is bringing out a book of cases. So it seems unnecessary to come a long distance to summarize material which is, or soon will be, obtainable in written form.

Another tempting possibility, particularly in this setting, was to discuss some of the roots from which the client-centered approach has sprung. It would have been interesting to show how in its concepts of repression and release, in its stress upon catharsis and insight, it has many roots in Freudian thinking, and to acknowledge that indebtedness. Such an analysis could also have shown that in its concept of the individual's ability to organize his own experience there is an even deeper indebtedness to the work of Rank, Taft, and Allen. In its stress upon objective research, the subjecting of fluid attitudes to scientific investigation, the willingness to submit all hypotheses to a verification or disproof by research methods, the debt is obviously to the

whole field of American psychology, with its genius for scientific methodology. It could also have been pointed out that although everyone in the clinical field has been heavily exposed to the eclectic "team" approach to therapy of the child guidance movement, and the somewhat similar eclecticism of the Adolf Meyers—Hopkins school of thought, these eclectic viewpoints have perhaps not been so fruitful in therapy and that little from these sources has been retained in the non-directive approach. It might also have been pointed out that in its basic trend away from guiding and directing the client, the non-directive approach is deeply rooted in practical clinical experience, and is in accord with the experience of most clinical workers, so much so that one of the commonest reactions of experienced therapists is that "You have crystallized and put into words something that I have been groping toward in my own experience for a long time."

Such an analysis, such a tracing of root ideas, needs to be made, but I doubt my own ability to make it. I am also doubtful that anyone who is deeply concerned with a new development knows with any degree of accuracy where his ideas came from.

Consequently I am, in this presentation, adopting a third pathway. While I shall bring in a brief description of process and procedure, and while I shall acknowledge in a general way our indebtedness to many root sources, and shall recognize the many common elements shared by client-centered therapy and other approaches, I believe it will be to our mutual advantage if I stress primarily those aspects in which nondirective therapy differs most sharply and deeply from other therapeutic procedures. I hope to point out some of the basically significant ways in which the client-centered viewpoint differs from others, not only in its present principles, but in the wider divergencies which are implied by the projection of its central principles.

¹ Paper given at a seminar of the staffs of the Menninger Clinic and the Topeka Veteran's Hospital, Topeka, Kansas, May 15, 1946.

THE PREDICTABLE PROCESS OF CLIENT-CENTERED THERAPY

The first of the three distinctive elements of client-centered therapy to which I wish to call your attention is the predictability of the therapeutic process in this approach. We find, both clinically and statistically, that a predictable pattern of therapeutic development takes place. The assurance which we feel about this was brought home to me recently when I played a recorded first interview for the graduate students in our practicum immediately after it was recorded, pointing out the characteristic aspects, and agreeing to play later interviews for them to let them see the later phases of the counseling process. The fact that I knew with assurance what the later pattern would be before it had occurred only struck me as I thought about the incident. We have become clinically so accustomed to this predictable quality that we take it for granted. Perhaps a brief summarized description of this therapeutic process will indicate those elements of which we feel sure.

It may be said that we now know how to initiate a complex and predictable chain of events in dealing with the maladjusted individual, a chain of events which is therapeutic, and which operates effectively in problem situations of the most diverse type. This predictable chain of events may come about through the use of language, as in counseling, through symbolic language, as in play therapy, through disguised language as in drama or puppet therapy. It is effective in dealing with individual situations, and also in small group situations.

It is possible to state with some exactness the conditions which must be met in order to initiate and carry through this releasing therapeutic experience. Below are listed in brief form the conditions which seem to be necessary, and the therapeutic results which occur.

This experience which releases the growth forces within the individual will come about in most cases if the following elements are present.

(1) If the counselor operates on the principle that the individual is basically responsible for himself, and is willing for the individual to keep that responsibility.

(2) If the counselor operates on the principle that the client has a strong drive to become mature, socially adjusted, independent, productive, and re-

lies on this force, not on his own powers, for therapeutic change.

(3) If the counselor creates a warm and permissive atmosphere in which the individual is free to bring out any attitudes and feelings which he may have, no matter how unconventional, absurd, or contradictory these attitudes may be. The client is as free to withhold expression as he is to give expression to his feelings.

(4) If the limits which are set are simple limits set on behavior, and not limits set on attitudes. (This applies mostly to children. The child may not be permitted to break a window or leave the room, but he is free to feel like breaking a window, and the feeling is fully accepted. The adult client may not be permitted more than an hour for an interview, but there is full acceptance of his desire to claim more time.)

(5) If the therapist uses only those procedures and techniques in the interview which convey his deep understanding of the emotionalized attitudes expressed and his acceptance of them. This understanding is perhaps best conveyed by a sensitive reflection and clarification of the client's attitudes. The counselor's acceptance involves neither approval nor disapproval.

(6) If the counselor refrains from any expression or action which is contrary to the preceding principles. This means refraining from questioning, probing, blame, interpretation, advice, suggestion, persuasion, reassurance.

If these conditions are met, then it may be said with assurance that in the great majority of cases the following results will take place.

(1) The client will express deep and motivating attitudes.

(2) The client will explore his own attitudes and reactions more fully than he has previously done and will come to be aware of aspects of his attitudes which he has previously denied.

(3) He will arrive at a clearer conscious realization of his motivating attitudes and will accept himself more completely. This realization and this acceptance will include attitudes previously denied. He may or may not verbalize this clearer conscious understanding of himself and his behavior.

(4) In the light of his clearer perception of himself he will choose, on his own initiative and on his own

responsibility, new goals which are more satisfying than his maladjusted goals.

(5) He will choose to behave in a different fashion in order to reach these goals, and this new behavior will be in the direction of greater psychological growth and maturity. It will also be more spontaneous and less tense, more in harmony with social needs of others, will represent a more realistic and more comfortable adjustment to life. It will be more integrated than his former behavior. It will be a step forward in the life of the individual.

The best scientific description of this process is that supplied by Snyder. Analyzing a number of cases with strictly objective research techniques, Snyder has discovered that the development in these cases is roughly parallel, that the initial phase of catharsis is replaced by a phase in which insight becomes the most significant element, and this in turn by a phase marked by the increase in positive choice and action.

Clinically we know that sometimes this process is relatively shallow, involving primarily a fresh reorientation to an immediate problem, and in other instances so deep as to involve a complete reorientation of personality. It is recognizably the same process whether it involves a girl who is unhappy in a dormitory and is able in three interviews to see something of her childishness and dependence, and to take steps in a mature direction, or whether it involves a young man who is on the edge of a schizophrenic break, and who in thirty interviews works out deep insights in relation to his desire for his father's death, and his possessive and incestuous impulses toward his mother, and who not only takes new steps but rebuilds his whole personality in the process. Whether shallow or deep, it is basically the same.

We are coming to recognize with assurance characteristic aspects of each phase of the process. We know that the catharsis involves a gradual and more complete expression of emotionalized attitudes. We know that characteristically the conversation goes from superficial problems and attitudes to deeper problems and attitudes. We know that this process of exploration gradually unearths relevant attitudes which have been denied to consciousness.

We recognize too that the process of achieving insight is likely to involve more adequate facing of reality as it exists within the self, as well as external

reality; that it involves the relating of problems to each other, the perception of patterns of behavior; that it involves the acceptance of hitherto denied elements of the self, and a reformulating of the self-concept; and that it involves the making of new plans.

In the final phase we know that the choice of new ways of behaving will be in conformity with the newly organized concept of the self; that first steps in putting these plans into action will be small but symbolic; that the individual will feel only a minimum degree of confidence that he can put his plans into effect; that later steps implement more and more completely the new concept of self, and that this process continues beyond the conclusion of the therapeutic interviews.

If these statements seem to contain too much assurance, to sound "too good to be true," I can only say that for many of them we now have research backing, and that as rapidly as possible we are developing our research to bring all phases of the process under objective scrutiny. Those of us working clinically with client-centered therapy regard this predictability as a settled characteristic, even though we recognize that additional research will be necessary to fill out the picture more completely.

It is the implication of this predictability which is startling. Whenever, in science, a predictable process has been discovered, it has been found possible to use it as a starting point for a whole chain of discoveries. We regard this as not only entirely possible, but inevitable, with regard to this predictable process in therapy. Hence, we regard this orderly and predictable nature of nondirective therapy as one of its most distinctive and significant points of difference from other approaches. Its importance lies not only in the fact that it is a present difference, but in the fact that it points toward a sharply different future, in which scientific exploration of this known chain of events should lead to many new discoveries, developments, and applications.

THE DISCOVERY OF THE CAPACITY OF THE CLIENT

Naturally the question is raised, what is the reason for this predictability in a type of therapeutic procedure in which the therapist serves only a catalytic function? Basically the reason for the pre-

dictability of the therapeutic process lies in the discovery—and I use that word intentionally—that within the client reside constructive forces whose strength and uniformity have been either entirely unrecognized or grossly underestimated. It is the clearcut and disciplined reliance by the therapist upon those forces within the client, which seems to account for the orderliness of the therapeutic process, and its consistency from one client to the next.

I mentioned that I regarded this as a discovery. I would like to amplify that statement. We have known for centuries that catharsis and emotional release were helpful. Many new methods have been and are being developed to bring about release, but the principle is not new. Likewise, we have known since Freud's time that insight, if it is accepted and assimilated by the client, is therapeutic. The principle is not new. Likewise we have realized that revised action patterns, new ways of behaving, may come about as a result of insight. The principle is not new.

But we have not known or recognized that in most if not all individuals there exist growth forces, tendencies toward self-actualization, which may act as the sole motivation for therapy. We have not realized that under suitable psychological conditions these forces bring about emotional release in those areas and at those rates which are most beneficial to the individual. These forces drive the individual to explore his own attitudes and his relationship to reality, and to explore these areas effectively. We have not realized that the individual is capable of exploring his attitudes and feelings, including those which have been denied to consciousness, at a rate which does not cause panic, and to the depth required for comfortable adjustment. The individual is capable of discovering and perceiving, truly and spontaneously, the interrelationships between his own attitudes, and the relationship of himself to reality. The individual has the capacity and the strength to devise, quite unguided, the steps which will lead him to a more mature and more comfortable relationship to his reality. It is the gradual and increasing recognition of these capacities within the individual by the client-centered therapist that rates, I believe, the term discovery. All of these capacities I have described are released in the indi-

vidual if a suitable psychological atmosphere is provided.

There has, of course, been lip service paid to the strength of the client, and the need of utilizing the urge toward independence which exists in the client. Psychiatrists, analysts, and especially social case workers have stressed this point. Yet it is clear from what is said, and even more clear from the case material cited, that this confidence is a very limited confidence. It is a confidence that the client can take over, if guided by the expert, a confidence that the client can assimilate insight if it is first given to him by the expert, can make choices providing guidance is given at crucial points. It is, in short, the same sort of attitude which the mother has toward the adolescent, that she believes in his capacity to make his own decisions and guide his own life, providing he takes the directions of which she approves.

This is very evident in the latest book on psychoanalysis by Alexander and French. Although many of the former views and practices of psychoanalysis are discarded, and the procedures are far more nearly in line with those of nondirective therapy, it is still the therapist who is definitely in control. He gives the insights, he is ready to guide at crucial points. Thus while the authors state that the aim of the therapist is to free the patient to develop his capacities, and to increase his ability to satisfy his needs in ways acceptable to himself and society; and while they speak of the basic conflict between competition and cooperation as one which the individual must settle for himself; and speak of the integration of new insight as a normal function of the ego, it is clear when they speak of procedures that they have no confidence that the client has the capacity to do any of these things. For in practice, "As soon as the therapist takes the more active role we advocate, systematic planning becomes imperative. In addition to the original decision as to the particular sort of strategy to be employed in the treatment of any case, we recommend the conscious use of various techniques in a flexible manner, shifting tactics to fit the particular needs of the moment. Among these modifications of the standard technique are; using not only the method of free association but interviews of a more direct character, manipulating the frequency of the interviews, giving

directives to the patient concerning his daily life, employing interruptions of long or short duration in preparation for ending the treatment, regulating the transference relationship to meet the specific needs of the case, and making use of real-life experiences as an integral part of therapy" (1). At least this leaves no doubt as to whether it is the client's or the therapist's hour; it is clearly the latter. The capacities which the client is to develop are clearly not to be developed in the therapeutic sessions.

The client-centered therapist stands at an opposite pole, both theoretically and practically. He has learned that the constructive forces in the individual can be trusted, and that the more deeply they are relied upon, the more deeply they are released. He has come to build his procedures upon these hypotheses, which are rapidly becoming established as facts; that the client knows the areas of concern which he is ready to explore; that the client is the best judge as to the most desirable frequency of interviews; that the client can lead the way more efficiently than the therapist into deeper concerns; that the client will protect himself from panic by ceasing to explore an area which is becoming too painful; that the client can and will uncover all the repressed elements which it is necessary to uncover in order to build a comfortable adjustment; that the client can achieve for himself far truer and more sensitive and accurate insights than can possibly be given to him; that the client is capable of translating these insights into constructive behavior which weighs his own needs and desires realistically against the demands of society; that the client knows when therapy is completed and he is ready to cope with life independently. Only one condition is necessary for all these forces to be released, and that is the proper psychological atmosphere between client and therapist.

Our case records and increasingly our research bear out these statements. One might suppose that there would be a generally favorable reaction to this discovery, since it amounts in effect to tapping great reservoirs of hitherto little-used energy. Quite the contrary is true, however, in professional groups. There is no other aspect of client-centered therapy which comes under such vigorous attack. It seems to be genuinely disturbing to many professional people to entertain the thought that this

client upon whom they have been exercising their professional skill actually knows more about his inner psychological self than they can possibly know, and that he possesses constructive strengths which make the constructive push by the therapist seem puny indeed by comparison. The willingness fully to accept this strength of the client, with all the re-orientation of therapeutic procedure which it implies, is one of the ways in which client-centered therapy differs most sharply from other therapeutic approaches.

THE CLIENT-CENTERED NATURE OF THE THERAPEUTIC RELATIONSHIP

The third distinctive feature of this type of therapy is the character of the relationship between therapist and client. Unlike other therapies in which the skills of the therapist are to be exercised upon the client, in this approach the skills of the therapist are focussed upon creating a psychological atmosphere in which the client can work. If the counselor can create a relationship permeated by warmth, understanding, safety from any type of attack, no matter how trivial, and basic acceptance of the person as he is, then the client will drop his natural defensiveness and use the situation. As we have puzzled over the characteristics of a successful therapeutic relationship, we have come to feel that the sense of communication is very important. If the client feels that he is actually communicating his present attitudes, superficial, confused, or conflicted as they may be, and that his communication is understood rather than evaluated in any way, then he is freed to communicate more deeply. A relationship in which the client thus feels that he is communicating is almost certain to be fruitful.

All of this means a drastic reorganization in the counselor's thinking, particularly if he has previously utilized other approaches. He gradually learns that the statement that the time is to be "the client's hour" means just that, and that his biggest task is to make it more and more deeply true.

Perhaps something of the characteristics of the relationship may be suggested by excerpts from a paper written by a young minister who has spent several months learning client-centered counseling procedures.

"Because the client-centered, nondirective counseling approach has been rather carefully defined and clearly illustrated, it gives the *"Illusion of Simplicity."* The technique seems deceptively easy to master. Then you begin to practice. A word is wrong here and there. You don't quite reflect feeling, but reflect content instead. It is difficult to handle questions; you are tempted to interpret. Nothing seems so serious that further practice won't correct it. Perhaps you are having trouble playing two roles—that of minister and that of counselor. Bring up the question in class and the matter is solved again with a deceptive ease. But these apparently minor errors and a certain woodenness of response seem exceedingly persistent.

"Only gradually does it dawn that if the technique is true it demands a feeling of warmth. You begin to feel that the attitude is the thing. Every little word is not so important if you have the correct accepting and permissive attitude toward the client. So you bear down on the permissiveness and acceptance. You *will* permit and accept and reflect the client, if it kills you!

"But you still have those troublesome questions from the client. He simply doesn't know the next step. He asks you to give him a hint, some possibilities, after all you are expected to know something, else why is he here? As a minister, you ought to have some convictions about what people should believe, how they should act. As a counselor, you should know something about removing this obstacle—you ought to have the equivalent of the surgeon's knife and use it. Then you begin to wonder. The technique is good, *but . . .* does it go far enough? does it really work on clients? is it *right* to leave a person helpless, when you might show him the way out?

"Here it seems to me is the crucial point. *"Narrow is the gate"* and hard the path from here on. No one else can give satisfying answers and even the instructors seem frustrating because they appear not to be helpful in your specific case. For here is demanded of you what no other person can do or point out—and that is to rigorously scrutinize yourself and

your attitudes towards others. Do you believe that all people truly have a creative potential in them? That each person is a unique individual and that he alone can work out his own individuality? Or do you really believe that some persons are of "negative value" and others are weak and must be led and taught by "wiser," "stronger" people.

"You begin to see that there is nothing compartmentalized about this method of counseling. It is not just counseling, because it demands the most exhaustive, penetrating, and comprehensive consistency. In other methods you can shape tools, pick them up for use when you will. But when genuine acceptance and permissiveness are your tools it requires nothing less than the whole complete personality. And to grow oneself is the most demanding of all."

He goes on to discuss the notion that the counselor must be restrained and "self-denying." He concludes that this is a mistaken notion.

"Instead of demanding less of the counselor's personality in the situation, client-centered counseling in some ways demands more. It demands discipline, not restraint. It calls for the utmost in sensitivity, appreciative awareness, channeled and disciplined. It demands that the counselor put all he has, of these precious qualities into the situation, but in a disciplined, refined manner. It is restraint only in the sense that the counselor does not express himself in certain areas that he may use himself in others.

"Even this is deceptive, however. It is not so much restraint in any area as it is a focusing, sensitizing one's energies and personality in the direction of an appreciative and understanding attitude."

As time has gone by we have come to put increasing stress upon the "client-centeredness" of the relationship, because it is more effective the more completely the counselor concentrates upon trying to understand the client *as the client seems to himself*. As I look back upon some of our earlier published cases—the case of Herbert Bryan in my book, or Snyder's case of Mr. M.—I realize that we have gradually dropped the vestiges of subtle directive-ness which are all too evident in those cases. We

have come to recognize that if we can provide understanding of the way the client seems to himself at this moment, he can do the rest. The therapist must lay aside his preoccupation with diagnosis and his diagnostic shrewdness, must discard his tendency to make professional evaluations, must cease his endeavors to formulate an accurate prognosis, must give up the temptation subtly to guide the individual, and must concentrate on one purpose only; that of providing deep understanding and acceptance of the attitudes consciously held at this moment by the client as he explores step by step into the dangerous areas which he has been denying to consciousness.

I trust it is evident from this description that this type of relationship can exist only if the counselor is deeply and genuinely able to adopt these attitudes. Client-centered counseling, if it is to be effective, cannot be a trick or a tool. It is not a subtle way of guiding the client while pretending to let him guide himself. To be effective, it must be genuine. It is this sensitive and sincere "client-centeredness" in the therapeutic relationship that I regard as the third characteristic of nondirective therapy which sets it distinctively apart from other approaches.

SOME IMPLICATIONS

Although the client-centered approach had its origin purely within the limits of the psychological clinic, it is proving to have implications, often of a startling nature, for very diverse fields of effort. I should like to suggest a few of these present and potential implications.

In the field of psychotherapy itself, it leads to conclusions that seem distinctly heretical. It appears evident that training and practice in therapy should probably precede training in the field of diagnosis. Diagnostic knowledge and skill is not necessary for good therapy, a statement which sounds like blasphemy to many, and if the professional worker, whether psychiatrist, psychologist or caseworker, received training in therapy first he would learn psychological dynamics in a truly dynamic fashion, and would acquire a professional humility and willingness to learn from his client which is today all too rare.

The viewpoint appears to have implications for medicine. It has fascinated me to observe that when a prominent allergist began to use client-

centered therapy for the treatment of non-specific allergies, he found not only very good therapeutic results, but the experience began to affect his whole medical practice. It has gradually meant the reorganization of his office procedure. He has given his nurses a new type of training in understanding the patient. He has decided to have all medical histories taken by a nonmedical person trained in nondirective techniques, in order to get a true picture of the client's feelings and attitudes toward himself and his health, uncluttered by the bias and diagnostic evaluation which is almost inevitable when a medical person takes the history and unintentionally distorts the material by his premature judgments. He has found these histories much more helpful to the physicians than those taken by physicians.

The client-centered viewpoint has already been shown to have significant implications for the field of survey interviewing and public opinion study. Use of such techniques by Likert, Lazarsfeld, and others has meant the elimination of much of the factor of bias in such studies.

This approach has also, we believe, deep implications for the handling of social and group conflicts, as I have pointed out in another paper (9). Our work in applying a client-centered viewpoint to group therapy situations, while still in its early stages, leads us to feel that a significant clue to the constructive solution of interpersonal and intercultural frictions in the group may be in our hands. Application of these procedures to staff groups, to inter-racial groups, to groups with personal problems and tensions, is under way.

In the field of education, too, the client-centered approach is finding significant application. The work of Cantor, a description of which will soon be published, is outstanding in this connection, but a number of teachers are finding that these methods, designed for therapy, produce a new type of educational process, an independent learning which is highly desirable, and even a reorientation of individual direction which is very similar to the results of individual or group therapy.

Even in the realm of our philosophical orientation, the client-centered approach has its deep implications. I should like to indicate this by quoting briefly from a previous paper.

As we examine and try to evaluate our clinical experience with client-centered therapy, the

phenomenon of the reorganization of attitudes and the redirection of behavior by the individual assumes greater and greater importance. This phenomenon seems to find inadequate explanation in terms of the determinism which is the predominant philosophical background of most psychological work. The capacity of the individual to reorganize his attitudes and behavior in ways not determined by external factors nor by previous elements in his own experience, but determined by his own insight into those factors, is an impressive capacity. It involves a basic spontaneity which we have been loathe to admit into our scientific thinking.

The clinical experience could be summarized by saying that the behavior of the human organism may be determined by the influences to which it has been exposed, *but it may also be determined by the creative and integrative insight of the organism itself.* This ability of the person to discover new meaning in the forces which impinge upon him and in the past experiences which have been controlling him, and the ability to alter consciously his behavior in the light of this new meaning, has a profound significance for our thinking which has not been fully realized. We need to revise the philosophical basis of our work to a point where it can admit that forces exist within the individual which can exercise a spontaneous and significant influence upon behavior which is not predictable through knowledge of prior influences and conditionings. The forces released through a catalytic process of therapy are not adequately accounted for by a knowledge of the individual's previous conditionings, but only if we grant the presence of a spontaneous force within the organism which has the capacity of integration and redirection. This capacity for volitional control is a force which we must take into account in any psychological equation (9).

So we find an approach which began merely as a way of dealing with problems of human maladjustment forcing us into a revaluation of our basic philosophical concepts.

SUMMARY

I hope that throughout this paper I have managed to convey what is my own conviction, that what we

now know or think we know about a client-centered approach is only a beginning, only the opening of a door beyond which we are beginning to see some very challenging roads, some fields rich with opportunity. It is the facts of our clinical and research experience which keep pointing forward into new and exciting possibilities. Yet whatever the future may hold, it appears already clear that we are dealing with materials of a new and significant nature, which demand the most openminded and thorough exploration. If our present formulations of those facts are correct, then we would say that some important elements already stand out; that certain basic attitudes and skills can create a psychological atmosphere which releases, frees, and utilizes deep strengths in the client; that these strengths and capacities are more sensitive and more rugged than hitherto supposed; and that they are released in an orderly and predictable process which may prove as significant a basic fact in social science as some of the laws and predictable processes in the physical sciences.

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MILITARY PSYCHOLOGISTS IN WORLD WAR II¹

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I. HISTORY OF UTILIZATION OF PSYCHOLOGISTS IN MILITARY SERVICE

THIS article presents the results of a survey, based on a questionnaire mailed to every American psychologist and psychologist-in-training who was in uniform in any branch of the military service in World War II.

The purpose of the study was to obtain specific data (1) on the history of the utilization of psychologists in the military service, and (2) on the courses and instruction in psychology desired by those planning to return to college and professional school. Details obtained in the first category should be of value in future planning for psychology and the use of psychologists, as well as for the historical record. Information in the second category should be of use to graduate departments and other groups interested in postwar employment problems and in the future of psychology as a professional field.

The advice of the following psychologists both in and out of the service was obtained regarding various preliminary forms of the questionnaire:

Walter V. Bingham	John G. Jenkins
Clyde H. Coombs	C. M. Louttit
John G. Darley	Donald G. Marquis
Harold A. Edgerton	C. Robert Pace
R. M. Elliott	Sidney L. Pressey
Paul M. Fitts	Marion W. Richardson
Frank A. Geldard	Carl R. Rogers
J. P. Guilford	Morton A. Seidenfeld
Edwin R. Guthrie	Dael Wolfe
William A. Hunt	Robert M. Yerkes

¹The authors wish to express their appreciation to Dr. Donald G. Marquis, who was Director of the Office of Psychological Personnel at the time of the survey. Dr. Paul M. Fitts, Dr. Sidney L. Pressey, and Dr. Robert M. Yerkes have also made a number of helpful suggestions.

The questionnaire was then pretested with a sample of officers and enlisted personnel in the several services, both men and women.² The final form was designed so that 53 of the 64 items in the first part (dealing with utilization of psychologists), and 27 of the 34 items in the second part (dealing with postwar educational plans) were self-coding.

A total of 1,710 questionnaires were mailed out by the Office of Psychological Personnel during the fall of 1945, with a covering letter explaining the two-fold purpose, and indicating that the factual information requested was to be based on the status of the individual as of *July 1, 1945*. Of the 1,710 individuals circularized: 1,398 were registered with the Office of Psychological Personnel (including 140 men from the Army Specialized Training Program group who had indicated an interest in continuing in psychology after the war); 134 were individuals doing psychological work who were sent a copy of the questionnaire at the request of some person who had already received one; and 178 were additional persons whose names were obtained from the National Roster of Scientific and Specialized Personnel. After proper followup inquiries, 968 completed questionnaires were received by the middle of December; the data from these questionnaires were tabulated and analyzed, largely with the use of IBM equipment. Later analysis indicated that there

²Sam E. Baden, Rex Collier, Ruth M. Cruikshank, John G. Darley, Ray Faulkner, Dale Harris, Ralph W. Heine, Nicholas Hobbs, William A. Hunt, Max L. Hutt, Howard H. Kendler, George G. Killinger, William W. Lambert, Robert B. Malmø, Kenneth MacCorquodale, Benjamin McKeever, Arthur W. Melton, Glenn Ramsey, J. Robert Rothhaar, Morton A. Seidenfeld, Joel Shor, Leo Srole, Eliot Stellar, Iris Stevenson, Hans-Lukas Teuber, Garth J. Thomas, William S. Verplanck, Jr., Marjorie C. Winfield, Herbert J. Zucker.

TABLE 1*
Branch of Service and Rank Attained
(N = 968)

RANK	BRANCH OF SERVICE										Total	
	Army Air Forces	Army General Staff	Army Ground Forces	Army Service Forces	Navy	Coast Guard	Marine Corps	Maritime Service	Public Health Service	No answer	N	%
Col. or Capt.	2			1		1					4	0.4
Lt. Col. or Comdr.	9		4	8	5						26	2.7
Major or Lt. Comdr.	24	3	8	18	32		2	2	3		92	9.5
Capt. or Lt.	32	1	6	59	108	3	4	2	6		221	22.8
1st Lt. or Lt. (jg)	47		11	70	62	4	3		4	1	202	20.9
2nd Lt. or Ensign	30	3	7	87	23	1		1		1	153	15.8
Warrant or Flight Off.				2							2	0.2
Non-Com. or Petty Off.	72	1	17	61	11		1				163	16.8
Cpl., S 1/c or F 1/c	28	2	9	19						1	59	6.1
Pfc., S 2/c or F 2/c	13	1	7	19			1				41	4.2
Pvt. or A/S	2				1						3	0.3
No answer					1					1	2	0.2
N	259	11	69	344	243	9	11	5	13	4	968	99.9
Total												
%	26.7	1.1	7.1	35.5	25.1	0.9	1.1	0.5	1.3	0.4	99.7	

* All data in this and the following tables are as of July 1, 1945.

TABLE 2
Branch of Service, Age, and Sex of Respondent
(N = 968)

AGE	BRANCH OF SERVICE										Total	
	Army Air Forces	Army General Staff	Army Ground Forces	Army Service Forces	Navy	Coast Guard	Marine Corps	Maritime Service	Public Health Service	No answer	N	%
20-24	32	2	13	24	14	1					86	8.9
25-29	100	3	23	113	55	3		2	1	4	304	31.4
30-34	61	4	18	88	77	3	7	1	9		268	27.6
35-39	30	2	8	63	65	1	3		2		174	17.9
40-44	18		1	22	19		1	1	1		63	6.5
45-49	3		2	10	3	1					19	1.9
50 and over	1		2	8							11	1.1
No answer	14		2	16	10			1			43	4.4
SEX												
Female			1	9	22	4	3				39	4.0
Male	259	11	68	335	221	5	8	5	13	4	929	96.0
N	259	11	69	344	243	9	11	5	13	4	968	100.0
Total												
%	26.7	1.1	7.1	35.5	25.1	0.9	1.1	0.5	1.3	0.4	99.7	

were no known selective factors operating as regards returned versus non-returned questionnaires. The results are summarized below.

Tables are presented dealing with three different populations: (1) the complete group of 968; (2) the 547 persons who planned to return to college or graduate school in some field of study; and (3) the 409 individuals of this group who planned to return for further education in psychology.

Although percentage scores were computed for all data, in many instances the raw data are of greater interest and accordingly are given. In some cases both raw scores and percentages are shown.³ The percentages, rounded to the first decimal place, do not always total exactly 100. Some of the questions, such as "What suggestions do you have for the more effective utilization of psychological information and service in the armed services during wartime and peacetime?" defied statistical analysis, although general trends and opinions could be sensed in reading over the questionnaires. Attention is called also to the division of branches of service into three categories: Army (Air Forces, General Staff, Ground Forces, Service Forces); Navy; and "Other Services" (Coast Guard, Marine Corps, Maritime Service, Public Health Service).

In general, items are discussed in the order in which they appeared on the questionnaire.

Branch of Service and Rank Attained. Table 1 gives information concerning the branch of service and the rank held, as of July 1, 1945, of the total population of 968 military psychologists who completed questionnaires. It is interesting to note that 432 persons (63 per cent) of the total of 683 for the four branches of the Army were officers, whereas 95 per cent of the psychologists in the Navy (230 out of 243) were officers.

Sex and Age. Table 2 is a simple breakdown of the branch of service, age, and sex of the respondent. Table 3 shows the relation between sex, age, and rank attained. Because of the small number of women psychologists in the services (only 39 returned the questionnaire), these two tables are the only ones in which sex differences are indicated.

Forty-five per cent of the persons in the Army were under 30, in contrast to the Navy, where only

28 per cent were under 30. The 30-39 year-olds predominated in the Navy (58 per cent). These differences are probably due largely to Selective Service policies and to the Navy practice of commissioning the majority of its psychologists, thus selecting from the older age groups. It can be seen from Table 3 that, in general, the older the individual, the higher the rank.

Prewar Education. Another part of the data pertains to education in psychology prior to entering the service. Concerning the *highest* degree with psychology as the major subject, 19.3 per cent of the 968 respondents had an A.B. or B.S. degree with a major in psychology; 36.9 per cent had an M.A. or M.S. degree in psychology; and 32.0 per cent had a Ph. D. degree in psychology. There were 9.6 per cent who possessed no degrees in psychology. Approximately 47 per cent of the total group had one or more degrees in some subject other than psychology.

Table 4 gives information concerning amount of education in psychology, the rank attained, and the branch of service in which the individual served. Here the difference in policy between the Army and the Navy is apparent: 47 per cent of the Navy psychologists had the Ph.D., whereas in the Army only 26 per cent held that degree. The higher percentage of Ph.D.'s in "Other Services" is probably due in part to the fact that in none of these was there a program using large numbers of psychologists, and that most of the psychologists were administrative officers.

Professional Affiliations. At the time the questionnaire was first developed, it seemed of value to find out about the professional affiliations of the group. Now that the American Psychological Association and the American Association for Applied Psychology have amalgamated, it is not necessary to present separate totals. The data revealed, however, that only 16 per cent had the status of either APA Member or AAAP Fellow (the highest degree of membership in each association at the time the questionnaire was circulated), and that 31 per cent were affiliated with neither association.

Functions and Fields of Specialization. In Table 5 data are presented which show the functions in which psychologists had the greatest amount of psychological experience prior to entering the service, and the functions in which they had the greatest

³ All data are available in the office of the American Psychological Association for inspection by anyone with an interest in specific items.

TABLE 3
Rank Attained, Age, and Sex of Respondent
(N = 968)

AGE	RANK ATTAINED												Total
	Col. or Capt.	Lt. Col. or Comdr.	Major or Lt. Comdr.	Capt. or Lt.	1st Lt. or Lt. (jg)	2nd Lt. or Ensign	Warrant or Flight Officer	Non- Com. or Petty Officer	Cpl., S 1/c, or F 1/c	Pfc., S 2/c, or F 2/c	Pvt. or A/S	No answer	
20-24				1	15	10		30	15	14	1		86
25-29			4	44	66	70		72	26	19	2	1	304
30-34		2	20	65	69	51	2	39	13	6		1	268
35-39	1	7	38	63	32	13		14	4	2			174
40-44	1	8	16	27	6	1		3	1				63
45-49	1	2	5	7	4								19
50 and over	1	4	3	2	1								11
No answer		3	6	12	9	8		5					43
SEX													
Female.....	1		3	8	11	9		6		1			39
Male.....	3	26	89	213	191	144	2	157	59	40	3	2	929
N.....	4	26	92	221	202	153	2	163	59	41	3	2	968
Total													
%.....	0.4	2.7	9.5	22.8	20.9	15.8	0.2	16.8	6.1	4.2	0.3	0.2	99.9

TABLE 4
Degree in Psychology, Branch of Service, and Rank Attained (%)*

DEGREE IN PSYCHOLOGY	BRANCH OF SERVICE	RANK ATTAINED											Total	
		Col. or Capt.	Lt. Col. or Comdr.	Major or Lt. Comdr.	Capt. or Lt.	1st Lt. or Lt. (jg)	2nd Lt. or Ensign	Warrant or Flight Officer	Non- Com. or Petty Officer	Cpl., S 1/c, or F 1/c	Pfc., S 2/c, or F 2/c	Pvt. or A/S		
													%	N
A.B.	Army			0.4	1.0	4.1	3.2		8.9	2.5	2.5	0.1	22.8	156
	Navy				3.7	3.7	2.1		1.6				11.1	27
	Other					5.3				2.6			7.9	3
M.A.	Army		0.6	1.9	5.3	7.9	10.1	0.1	7.6	2.8	2.2	0.1	38.6	264
	Navy		0.4	2.9	13.6	9.9	2.9		2.9			0.4	32.9	80
	Other	2.6			7.9	10.5	5.3		2.6				29.0	11
Ph.D.	Army	0.4	2.5	5.0	7.2	5.0	4.4		0.4	0.3	0.3 ^a		25.5	174
	Navy		1.6	9.5	21.8	10.3	3.3						46.5	113
	Other			18.4	29.0	10.5							57.9	22
None	Army			0.4	0.3	1.5	0.6	0.1	4.5	2.6	0.9		11.0	75
	Navy			0.4	3.3	1.2	1.2						6.6	16
	Other				2.6	2.6							5.3	2

* The percentages given are based upon the total number of psychologists in each of the three service categories (Army = 683; Navy = 243; Other Services = 38). The "No Answer" category (= 21) is omitted.

amount of experience while in military service, according to branch of service, and by officer and enlisted categories. The shifts in role are striking.

In obtaining the data for Table 5, the respondents were asked to indicate the principal function in which they were *most* experienced, and also the function in which they were *next* most experienced;

questionnaire also asked for an indication of the person's field of specialization in psychology—not *what* the individual did, but in which of nine fields of psychology he classified his prewar job and his military assignment. Table 6 gives this information, as well as the relations of field of specialization to branch of service, and to officer or enlisted status.

TABLE 5

Relations Between Principal Functions Performed Prior to and During Military Service, Branch of Service, and Officer or Enlisted Status (%)

PRINCIPAL FUNCTIONS	TOTAL DURING SERVICE	PRIOR TO MILITARY SERVICE	DURING SERVICE				
			Branch of service*			Status†	
			Army	Navy	Other	Officer	Enlisted personnel
Administration or management of psychological services (including supervision of research programs).....	15.4	5.6	16.4	13.2	13.2	19.5	4.8
Consulting and other private practice.....	2.4	2.2	3.0	1.2	1.3	1.9	3.9
Design, construction, and operation of apparatus and special equipment (including research on apparatus and its uses)...	1.9	2.2	1.4	3.5	1.3	1.9	1.9
Individual case work, diagnosis, and counseling (including interviewing, individual test administration and interpretation).....	25.3	28.1	27.8	18.7	22.4	24.6	27.2
Industrial or governmental personnel work.....	5.4	6.5	4.8	6.4	7.9	5.6	4.9
Market research studies, opinion polls, and audience research (including collection and analysis of data).....	0.4	2.0	0.4	0.4		0.4	0.4
Special training and re-education.....	2.4	2.5	2.7	1.4	5.3	2.4	2.4
Teaching.....	4.0	21.3	3.1	6.8	3.9	4.4	3.0
Technical editing and writing.....	3.3	0.8	3.4	2.7	3.9	3.0	3.9
Test construction (including collection and analysis of data).....	5.5	6.8	5.2	6.6	3.9	5.0	6.7
Research (not elsewhere classified).....	7.3	12.0	7.0	8.0	6.6	6.3	9.9
Any other function not classified above...	13.2	4.4	13.3	14.0	7.9	12.8	14.6
No answer.....	13.4	5.5	11.4	17.1	22.4	12.1	16.4
	N = 968	N = 968	N = 683	N = 243	N = 38	N = 698	N = 268

* Total N for "Branch of Service" is 964. 4 persons did not indicate branch (see Table 1).

† Total N for "Status" is 966. 2 persons did not indicate rank (see Table 1).

but for purposes of presentation the figures obtained for both functions were combined. Apparently branch of service was not a significant variable with respect to functions performed; nor was rank, except in the amount of administration done by officers.

In order to get an additional check on whether there had been shifts in skills and interests, the

As in the case of functions, the questionnaire asked for greatest and next greatest field of specialization, but for each field the two scores have been combined in the table presented here. It is apparent that the largest numbers of psychologists were engaged in clinical and personnel work; this is true regardless of branch of service, or officer or enlisted status. In the second half of the paper similar data on functions

and fields of specialization are given for those who planned to return to college or professional school for further training, as to what they did in military service, and what they wished to do on completion of this training.

and by July 1, 1945, there were around 1,700 psychologists in the various services.

Of the 968 answering the present questionnaire, 36 per cent had been inducted, 20 per cent had volunteered prior to induction, 38 per cent were commis-

TABLE 6

Relations Between Principal Fields of Specialization Prior to and During Military Service, Branch of Service, and Officer or Enlisted Status (%)

PRINCIPAL FIELDS OF SPECIALIZATION	PRIOR TO MILITARY SERVICE	DURING SERVICE					
		Branch of service*			Status†		Total during service
		Army	Navy	Other	Officer	Enlisted personnel	
Abnormal.....	9.7	12.5	7.8	13.2	12.5	9.0	11.4
Child and developmental.....	4.5	0.0	0.0	0.0	0.0	0.0	0.0
Clinical, counseling, and guidance.....	27.5	29.4	20.9	30.3	27.6	26.5	27.3
Educational.....	12.3	5.1	8.9	6.6	6.4	5.0	6.0
Laboratory (including sensation and perception).....	7.1	1.1	4.3	0.0	2.2	0.9	1.9
Personnel and industrial.....	10.6	15.1	14.4	15.8	15.5	13.4	14.9
Physiological.....	3.2	0.9	2.7	2.6	1.4	1.3	1.4
Social.....	5.9	1.5	0.6	1.3	0.8	2.4	1.2
Statistics and test construction.....	9.0	9.8	9.5	5.3	9.4	9.7	9.5
No field of specialization.....	3.7	6.0	8.9	2.6	6.1	7.8	6.6
Other.....	3.3	8.6	7.0	5.3	7.9	8.4	8.0
No answer.....	3.2	10.1	15.0	17.1	10.1	15.5	11.7
	N = 968	N = 683	N = 243	N = 38	N = 698	N = 268	N = 968

* The total N for "Branch of Service" is 964, because 4 persons did not indicate to which branch they belonged (see Table 1).

† The total N for "Status" is 966, because 2 persons did not indicate their rank (see Table 1).

TABLE 7

*Method of Entering Military Service and Branch to Which Assigned (%)**

METHOD OF ENTERING MILITARY SERVICE	BRANCH OF SERVICE										Total	
	Army Air Forces	Army General Staff	Army Ground Forces	Army Service Forces	Navy	Coast Guard	Marine Corps	Maritime Service	Public Health Service	No answer	N	%
Inducted.....	42.5	45.5	56.5	53.8	4.1					50.0	351	36.3
Volunteered.....	32.8	27.3	15.9	16.6	11.5	44.4	27.3	20.0		50.0	194	20.0
Commissioned directly.....	19.3	9.1	15.9	23.8	79.8	55.6	72.7	80.0	100.0		368	38.0
Called from Reserves.....	5.4	18.2	11.6	5.8	4.1						54	5.6
No answer.....					0.4						1	0.1
Total (N).....	259	11	69	344	243	9	11	5	13	4	968	100.0

* The figures given are percentages of the number of psychologists in each branch of service.

Method of Entering Service. In the early days of the war many psychologists were granted "occupational deferment" under Selective Service regulations (1, 4). As the need for psychologists increased in the military services, a great many were inducted;

and 6 per cent were called to active duty from Reserve status. Table 7 shows the relation between method of entrance and branch of service. Of those in the Army Air Forces, 33 per cent volunteered prior to induction, whereas

in the Navy 80 per cent of the psychologists were commissioned directly from civilian life. In the interpretation of this table, high percentages in several instances reflect only a very few individuals.

Overseas Service. On the whole, psychologists did not get overseas. Not until the closing phases of the war, when more psychiatric field stations and hospitals were established, was the need for psychologists in overseas theaters considered important. Of the total group, only 20 per cent spent more than 5 months overseas, and of these only 11 per cent spent more than a year outside the continental limits of the United States.

When total length of service is taken into account, as of July 1, 1945, 4 per cent had spent at least one year in service, 19 per cent at least two years, 52 per cent at least three years, while 25 per cent had spent more than three years. There were 29 men in the Army and 6 in the Navy who had been in military service more than four years at the time of the survey.

Military Duties. Table 8 is a "telescoped" summary of the military duties performed by psychologists. The emphasis here is on the psychologist as a part of the military structure rather than as a member of the profession of psychology. The list of duties is largely based on that compiled by a conference on military psychology in 1944 (3). The respondents were asked to indicate the number of jobs, not including basic training or time spent in schools of various sorts, they had held throughout their military service. For each job they were asked to show the distribution of time in months spent performing each of the twelve duties. The mean number of different jobs held, in which the various functions were performed, was 3.02, with a range of 1 to 10, and a standard deviation of 1.67. The mean number of duties performed was 3.18, with a range of 1 to 12 (including the last two "other-duties" categories of Table 8), and a standard deviation of 1.95.

Courses Taken in Military Service. Most military psychologists, in addition to basic training or indoctrination, took specialized courses or on-the-job training. The average number of such courses taken was two, and only 13 per cent of the total group indicated that no such training had been given them. The mean number of weeks spent in such pursuits was 19.4 (S.D. = 3.8).

Nature of Military Duties. Many psychologists, upon entering military service, found that it was

TABLE 8
*Duties or Functions Performed by Psychologists in
Military Service*
(N = 968)

DUTIES OR FUNCTIONS IN MILITARY SERVICE	NO. OF PSYCHOLOGISTS SPENDING ANY TIME ON EACH DUTY OR FUNCTION		AVERAGE NO. OF MONTHS PER PSYCHOLOGIST SPENT ON EACH DUTY OR FUNCTION
	N	%	
<i>Analysis of military tasks and occupations</i>	215	22.2	4.1
<i>Development of tests and procedures for selection, classification, and distribution of personnel</i>	386	39.8	7.2
<i>Test administration, interviewing, and classification</i>	598	61.8	8.9
<i>Development of clinical and counseling techniques and procedures</i>	227	23.4	6.4
<i>Use of clinical and counseling procedures for examination and consultation services</i> ...	460	47.5	9.4
<i>Development of training programs and of methods for evaluating training</i>	283	29.2	7.3
<i>Design and testing of instrumentalities of warfare (weapons, airplane controls, etc.)</i>	45	4.6	5.3
<i>Study of psychophysiological factors such as vision, hearing, and fatigue in the performance of specialized military tasks</i>	70	7.2	6.7
<i>Development of techniques for ascertaining attitudes or opinions and procedures for use in orientation programs, in morale services, and in psychological warfare</i>	89	9.2	3.3
<i>Analysis of statistical data (not included elsewhere on this list)</i>	284	29.3	4.3
<i>Other duties not listed above but psychological in nature</i>	285	29.4	6.4
<i>Other duties not listed above but NOT psychological in nature</i>	442	45.7	8.0

quite a while before they were assigned to duties commensurate with their training and background.

As the war continued, however, psychologists were more likely to be assigned to psychological duties.

Table 9 shows the distribution of answers obtained to the question: "To what extent are your *present* duties psychological in nature, and to what extent have your *past* duties in service been psychological in nature?" Over 70 per cent of all respondents felt that over half of their present duties and over half of their past duties were psychological in nature.

An analysis has also been made of the answers in terms of the rank attained, branch of service, and the amount of education prior to entering military service. In general, low-ranking officers and enlisted personnel, assigned to the Navy, Army Air Forces, and Army Service Forces, regardless of prewar

TABLE 9

Extent to Which Present (as of July 1, 1945) and Past Duties in Military Service Were Psychological in Nature
(N = 968)

PER CENT DUTIES PSYCHOLOGICAL IN NATURE	PRESENT		PAST	
	N	%	N	%
100	288	29.7	173	17.9
90-100	226	23.3	256	26.4
50-90	173	17.9	254	26.2
10-50	112	11.6	126	13.0
0-10	58	6.0	63	6.5
None	91	9.4	67	6.9
No answer	20	2.1	29	3.0
Total	968	100.0	968	99.9

education, considered that a higher percentage of their work was and had been psychological in nature than did the rest of the group.

Postwar Plans. Answers regarding postwar plans of the group indicate that many psychologists desired to find new jobs or to get further training in order to better their status. There were 39 per cent who planned to seek a new position, 31 per cent who wanted to return to professional school or college for further study, 19 per cent who planned to return to their previous positions, and 2 per cent who wished to remain in military service, with the rest undecided. Neither branch of service nor rank, except insofar as age was reflected in the latter, apparently was related to postwar plans. As might be expected, the largest percentage (74 per cent) of those planning to return to school was in the 20-30 year-old group. The 30-

40 year olds made up the largest percentage (55 per cent) of those planning to seek a new position.

About 55 per cent of the total group expressed desires to attend "refresher" courses in psychology if such were available. Of this group 40 per cent had reached the M.A. level before the war, and 25 per cent of them had attained the Ph.D. degree.

Military versus Civilian Life. Some psychologists had indicated that they liked certain aspects of their work in military service better than work in civilian life, but that in other ways civilian employment was more desirable. In order to find out what these aspects were, the respondents were asked to check

TABLE 10
Military versus Civilian Life
(N = 968)

FACTORS IN MILITARY SERVICE AS COMPARED WITH CIVILIAN EMPLOYMENT	"MAKES ME WANT TO STAY"	"MAKES ME WANT TO LEAVE"
Greater opportunity to travel	46.7	38.3
Greater opportunity for patriotic service	39.5	42.3
Greater opportunity for security	38.5	46.0
Greater opportunity for practical work	23.0	64.1
Greater opportunity for higher salary	17.4	69.0
Greater opportunity for research	11.8	75.6
Greater opportunity for promotion	11.7	73.7
Greater opportunity for professional contacts	6.2	81.1
Greater opportunity for individual initiative	4.3	87.4
Greater opportunity for professional prestige	3.9	82.0
Other opportunities	3.3	23.3

those factors that "make me want to stay in military service" and those that "make me want to leave." Listed in Table 10 (in rank order according to "staying" power) are the twelve items, with the percentage figures given for the two parts of each. The "No Answer" category is omitted. These data indicate that if the military services are to attract psychologists during peacetime much greater opportunities for individual initiative and professional recognition must be offered.

"Free-answer" Questions. Only an inspection of the questionnaires themselves can give an accurate picture of the opinions expressed in the various "free-answer" questions; but an attempt at summary will be made here. The psychologists were asked to

list the main things they had learned in military service about psychology which were useful to them as psychologists. The answers ranged from profane statements of what had been *forgotten* rather than learned, to such phrases as "all I know" or detailed accounts of new techniques in clinical therapy.

The questionnaire also asked whether the psychologists themselves had developed new techniques and procedures which would be useful to other psychologists. Typical answers were: "helped to devise test for aerial gunners," "participated in devising new group therapy technique," etc. In a few isolated instances a psychologist apparently had developed a mechanical device or a test alone. The unusual ability of psychologists to solve problems, however, whether they be problems of personnel or those of how to arrange instruments and dials in a cockpit, has been commented upon frequently by many of the members of all services, Reserve and Regular. As a member of a team in a research laboratory or in a field hospital, or wherever he may have been, the psychologist frequently became a sort of "Jack-of-all-trades." He learned new things fast, and integrated old things intelligently.

The questionnaire also asked: "What suggestions do you have for the more effective utilization of psychological information and service in the armed services (a) during wartime, and (b) during peacetime?" The most frequent suggestions for wartime centered around the problems of allowing more individual initiative, more recognition for achievement, more accurate assignment of personnel, less regimentation and red tape, and more explanation of "topside" policies. In peacetime the same problems exist, but here the respondents emphasized the great need for cooperation between military and civilian psychologists; and, above all else, that somehow the psychologist attached to an armed service *must* have rank, salary, and prestige equivalent to what he can get as a civilian. To achieve this goal, many of the answers suggested joint governing or advisory boards of various kinds, the continuation of the sort of work carried on during the war by the Office of Psychological Personnel, journals and other publications which would educate the military services as to what services psychologists can render, as well as improvement of the professional status of the individual psychologists.

II. EDUCATIONAL PLANS OF MILITARY PSYCHOLOGISTS IN TRAINING

The materials that follow deal with the educational plans of those who indicated that they planned to return to professional school or college for further training after the war. The information given is as of July 1, 1945.

Of the total of 1,710 questionnaires mailed out, 968 were returned with usable information. Of these, the second part of the questionnaire was completed by 547 individuals who indicated their desire for further education. Table 11 summarizes the

TABLE 11
Type of School and Degree Eventually Sought
(N = 968)

TYPE OF SCHOOL	DEGREE SOUGHT						
	A.B.	M.A.	Ph.D.	M.D.	Other	None	No answer
College—psychology major.....	1	3	4				1
College—other major.....			1	1		1	3
Graduate school in psychology.....		61	304	1	5	26	3
Graduate school in other field.....		20	54		2	9	85
Professional school...		8	6	20	5	7	2
Technical school....			1			1	2
No answer.....						421	421
Total.....	1	92	370	22	12	44	427

data regarding the type of school chosen and the degree sought.

Most of the remaining tables are based on 409 individuals: the 9 indicated in Table 11 who planned to major in psychology in college plus the 400 who planned to carry on graduate work in psychology. There were 21 women and 388 men. Of these, 13 per cent were under 25 years of age, 42 per cent were in the 25-29 year-old category, 26 per cent were between 30 and 35 years old, 13 per cent between 35 and 39, and 2 per cent were 40 or over. Table 12 shows how much time the 409 individuals were planning to spend on this additional training, and what degrees they would be seeking.

Military Background. Table 1 gave the overall picture of the military backgrounds of all 968 respondents. A separate analysis was made for the 409 students, but presentation of the table seems unnecessary, since the distribution of 409 did not differ in any marked way from that of the whole group. As might be expected, the largest percentage

M.A. degree in psychology before entering military service. Table 13 gives a complete picture of the educational backgrounds of these future students.

TABLE 12
*Length of Time Planned to Be Spent in Obtaining
Degree Sought*
(N = 409)

DEGREE SOUGHT	LENGTH OF TIME PLANNED						Total	
	Less than 1 year	1-2 years	2-3 years	Over 3 years	No an- swer			
							N	%
A.B.			1				1	0.2
M.A.	9	36	7	12			64	15.6
Ph.D.	38	163	83	23	1	308	75.3	
M.D.				1		1	0.2	
Other	1	3	1			5	1.2	
None	16	6	1	3		26	6.4	
No answer	1			1	2	4	1.0	
Total N	65	208	93	40	3	409	99.9	
Total %	15.9	50.9	22.7	9.8	0.7	100.0		

TABLE 13
*Educational Backgrounds of Group Planning for Further
Education in Psychology*
(N = 409)

DEGREES HELD	IN PSYCHOLOGY		IN OTHER FIELDS	
	N	%	N	%
A.B.	104	25.4	113	27.6
M.A.	232	56.7	59	14.4
Ph.D.	17	4.2	9	2.2
M.D.			1	0.2
None	47	11.5	151	36.9
No answer	9	2.2	76	18.6
Total	409	100.0	409	99.9

(81 per cent) of them were non-commissioned officers or junior officers. Of the total group of 409, 39 per cent were in the Army Service Forces, where most of them had been performing clinical duties. Most of the 29 per cent assigned to the Army Air Forces were engaged in statistical work and test research.

Educational Background. Of this group planning for further study, over half had already received the

TABLE 14
Choice of Colleges or Universities for Further Education
(N = 547)*

COLLEGE OR UNIVERSITY	FIRST CHOICE	SECOND CHOICE	TOTAL
Columbia	67	41	108
Harvard	37	21	58
Chicago	36	20	56
Stanford	22	18	40
New York University	24	15	39
Minnesota	19	17	36
Ohio State	24	9	33
California (Berkeley)	13	13	26
Yale	11	10	21
Northwestern	15	4	19
Pennsylvania	14	5	19
Southern California	12	3	15
Michigan	9	6	15
Iowa	11	3	14
Massachusetts Institute of Technology	2	7	9
Wisconsin	6	1	7
Iowa State	4	3	7
Illinois	4	3	7
Texas	3	4	7
Washington (Seattle)	2	5	7
New York School of Social Work	6	0	6
Indiana	5	1	6
Princeton	4	2	6
Pittsburgh	4	2	6
Pennsylvania State	5	0	5
Cornell	4	1	5
North Carolina	2	3	5
Others (4 or less total choices)	52	37	89
Uncertain	70	88	158
No answer	60	205	265
Total	547	547	1094

* The N here is made up of 12 individuals who planned to return to college as undergraduates (9 in psychology), 400 who planned to attend graduate school in psychology, and 135 who planned to attend graduate school in some other subject.

Choice of Colleges for Further Study. In order to give some idea of what departments of psychology might expect in veteran enrollment, the respondents were asked to indicate their first and second choices of colleges or universities they wished to attend. These are listed in Table 14 in rank order of total choices.

Principal Functions and Fields of Specialization. In the first section of this paper a brief comparison was made of the psychological functions and fields of specialization of the total group of persons before they entered military service, and of what they did when they were in service. Table 15 compares what the group of 409 did in military service, and

Specialization" is a combination of the field of "greatest specialization" and the field of "next greatest specialization." In both tables (15 and 16) the emphasis on applied fields is immediately apparent.

Credit for Military Psychology. A great deal of discussion has gone on concerning the question of

TABLE 15

Principal Psychological Functions During Military Service and Desired Functions After Completing Further Educational Training (%)
(N = 409)

PRINCIPAL PSYCHOLOGICAL FUNCTIONS	DURING MILITARY SERVICE	DESIRED AFTER COMPLETING FURTHER EDUCATIONAL TRAINING
Administration or management of psychological services (including supervision of research programs)	11.5	9.0
Consulting and other private practice	2.6	10.3
Design, construction, and operation of apparatus and special equipment (including research on apparatus and its uses)	1.7	1.1
Individual case work, diagnosis, and counseling (including interviewing, individual test administration and interpretation)	28.2	26.1
Industrial or governmental personnel work	3.8	19.7
Market research studies, opinion polls, and audience research (including collection and analysis of data)	0.5	3.2
Special training and re-education	1.7	0.8
Teaching	3.6	17.4
Technical editing and writing	3.0	1.1
Test construction (including collection and analysis of data)	5.5	2.6
Research (not elsewhere classified)	7.5	5.8
Any other function not classified above	13.7	1.8
No answer	16.6	1.1

what they wanted to do after completing further educational training; in the table "Principal Psychological Functions" represents a combination of the function in which "most experienced" and the function in which "next most experienced." Table 16 shows for the same group the chief fields of specialization during military service, and the chief fields desired for further study; the "Chief Fields of

TABLE 16

Chief Fields of Specialization During Military Service and Desired Fields for Further Study (%)
(N = 409)

CHIEF FIELDS OF SPECIALIZATION	DURING MILITARY SERVICE	DESIRED FOR FURTHER STUDY
Abnormal	13.1	9.2
Child and developmental	0.0	4.1
Clinical, counseling, and guidance	29.2	32.5
Educational	5.0	5.4
Laboratory (including sensation and perception)	1.3	4.2
Personnel and industrial	12.0	21.9
Physiological	1.2	3.7
Social	0.5	7.3
Statistics and test construction	8.9	6.8
No field of specialization	5.9	0.7
Other	9.2	2.4
No answer	13.8	1.7

TABLE 17

How Should Credit Be Determined for Psychological Work Done in Military Service? (%)
(N = 409)

METHOD OF ACCREDITATION	YES	NO	NO ANSWER
Examinations pertinent to military experience	69.7	21.5	8.8
Substitution of attested report of research in the service for part or all of the dissertation	60.1	29.6	10.3
Evaluation of service record	40.3	50.9	8.8
Recommendations by superiors	39.6	49.1	11.3

accreditation for psychological work done while in military service. Although the group of 409 is definitely in favor of such accreditation, they are not in agreement as to the best method of assessment. To the question of receiving credit they voted: "Yes," 56 per cent; "No," 35 per cent; "Don't know," 8 per cent.

In Table 17 are listed four possible ways in which credit might be granted and the "Yes" and "No" answers given by the group. It is interesting to speculate on how long it would take to construct reliable and valid examinations on military experience, and who could or would undertake the task. Some attempts at evaluation have, however, been made already. As the men in the AAF research group know, Colonel John C. Flanagan and his staff hope eventually to have on file certified statements of the work done by all psychologists in their program, together with proficiency ratings made by those directly in charge of the individual's work; by late 1945 much of this information was already gathered, and the files are to be transferred to the Office of the Executive Secretary of the American Psychological Association for future use and reference. The number of psychologists in the various Navy psychological programs was small enough that the commanding officers could get to know personally each psychologist working under them, and they can, therefore, give a fairly accurate statement of what a given man did and how well he did it. All of the universities where Army Specialized Training in Personnel Psychology was offered are granting varying amounts of credit for the courses taken (2). It is for the men and women not involved in one of the above-mentioned groups that some method of accreditation apparently needs to be devised.

Financial Needs. The financial needs of those planning to return to school are great, and the universities must be prepared for many more requests for help than they received before the war. Of the 409, 85 per cent planned to avail themselves of the educational benefits of the G.I. Bill of Rights, but 79 per cent of this group stated that they would need additional financial help. Figure 1 gives the distribution of the amounts of money needed in addition to G. I. benefits ($M = \$1,050$). There are 50 per cent of the group who plan to work part-time while going to school, and 20 per cent plan to work full-time. Because of the war, the persons who would normally have gone to graduate school immediately after completing their undergraduate training had to defer their plans. They were not able to defer the aging process, however. Now they are ready to resume their education, but their responsibilities for the most part are much greater. There are 15 per cent who have more than two de-

pendents in addition to themselves; 30 per cent have two additional dependents; and 36 per cent have one additional dependent. Only 4 persons stated that they would need no financial help at all.

Desire for Accelerated Programs of Study. Along with the need for support during training is the

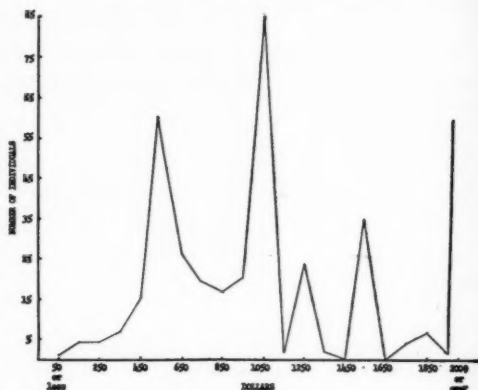


FIG. 1. AMOUNT OF MONEY NEEDED IN ADDITION TO BENEFITS OF G. I. BILL. (N = 547)

TABLE 18

Types of Accelerated Program of Education Desired (%)
(N = 409)

METHODS OF ACCELERATION	YES	NO	NO ANSWER
Credit for conducting research studies (in addition to full program)	80.0	10.5	9.5
Credit by examinations for independent study of courses without taking them	77.3	14.4	8.3
Summer attendance	75.8	13.7	10.5
Special refresher or intensive courses	72.9	17.8	9.3
Writing of papers and reports for credit (in addition to full program)	68.2	21.8	10.0
Modification or elimination of prerequisites for certain advanced courses	66.5	24.5	9.0
Fuller schedule of classes than pre-war	33.3	55.7	11.0

desire for accelerated programs of study, although this desire apparently was not as strong as one might have expected. To the question: "Will you desire some form of accelerated program of education?" the replies were: "Yes," 47 per cent; "No," 36 per cent; "Don't know," 16 per cent. Table 18 shows in what ways the respondents would wish such a program to be accomplished.

Need for Supervised Practicum. In recent months there has been a good deal of discussion concerning the advisability of making supervised practical experience a required part of graduate training in psychology—no matter what the field of specialization may be. Table 19 shows the opinions of the 409 individuals who planned to study psychology, and it is obvious that they strongly favored the idea.

"Free-answer" Questions. The remainder of the questionnaire was devoted to free-answer questions designed to get opinions on how present graduate curricula might be changed for the better. In many instances the respondents wrote at length, on the questionnaire and on separate sheets. Any reader of the replies would get the very clear impression that people who have been in military service and plan to return to college or graduate school definitely want some changes made in our educational program!

TABLE 19

Opinions Regarding Required Supervised Practical Experience
(N = 409)

SUPERVISED PRACTICAL EXPERIENCE SHOULD BE REQUIRED FOR:	N	%
Both the M.A. and Ph.D.....	181	44.3
The Ph.D. only.....	122	29.8
The M.A. only.....	20	4.9
Neither the Ph.D. nor M.A.....	46	11.2
Don't know.....	36	8.8
No answer.....	4	1.0
Total.....	409	100.0

Table 20 presents the information obtained in answer to the question: "What languages do you think should be required for the Ph.D. in psychology?" It should be kept in mind that the figures given here represent the number of times the language was mentioned as a requirement, alone or in combination, and also that these suggestions came from 390 of the total group of 547 individuals. Note that 108 persons thought that no languages at all should be required.

It is recognized that it would be preferable to have the information in this table, and those remaining, from the smaller group of 409 would-be students in psychology, but these questions were hand-tallied as the questionnaires were received—before any IBM

sorts had been made. It is possible, of course, that graduate departments of psychology will not be averse to accepting advice and comment from these "outsiders."

The question was next asked: "What new courses, if any, would you suggest at the graduate level?" (This included psychology and related fields.) Table 21 is an attempt to classify the 221 (!) courses which were suggested. The emphasis was not so much on *new* courses as upon *more* courses of a given sort. For example, 24 per cent of the responses asked for courses in various kinds of clinical psychology, although most graduate departments offer some degree of training in this field. There were frequent requests for orientation courses—how

TABLE 20
Languages Believed Required for the Ph.D.
(N = 547)*

LANGUAGES	NUMBER OF TIMES MENTIONED
German.....	207
French.....	134
Russian.....	49
English.....	46
Spanish.....	30
Latin.....	4
Portuguese.....	3
Italian.....	2
Chinese.....	1
"Any one foreign language".....	23
None.....	108
No answer.....	157

* See footnote of Table 14 for explanation.

psychology can learn from and contribute to other related and unrelated fields. The students want training in the methods of science. Above all, their interests are in the application of psychological knowledge and techniques.

A natural corollary of the above question was to ask what courses they wished to have eliminated from the graduate curriculum in psychology. Table 22 represents a condensation from approximately 30 courses. Again the desire to have the emphasis on foreign languages eliminated is indicated; but the other courses named probably reflect minor personal prejudices rather than serious recommendations. The important point to stress is that 44 per cent of

the respondents recommended that there should be no course requirements—programs should be arranged to fit individual needs. The problems that such a procedure would bring in the typical graduate department are many, of course.

TABLE 21
New Courses Suggested for Graduate School
(N = 547)*

COURSES	N	% RESPONSES
Clinical		
Techniques.....	40	8.1
Psychotherapy.....	24	4.8
Internship.....	18	3.6
Rorschach.....	118	15
Personality.....	8	23.7
Psychoanalysis.....	7	1.6
General.....	6	1.4
Applied courses.....	49	1.2
Psychiatry.....	28	9.9
Scientific method.....	25	5.6
Military psychology.....	23	5.0
Basic sciences.....	22	4.6
Sociology.....	21	4.4
Orientation courses.....	20	4.2
Social.....	18	4.0
Counseling (vocational, educational).....	15	3.6
Statistics and mathematics.....	14	3.0
Psychometrics.....	12	2.8
History and systems of psychology.....	10	2.4
Economics.....	10	2.0
Anthropology.....	9	2.0
Semantics.....	6	1.8
Philosophy.....	2	1.2
Miscellaneous and unclassified.....	20	0.4
Don't know.....	14	4.0
None.....	61	2.8
No answer.....	270	12.3

* See footnote to Table 14 for explanation. Note also that the 497 responses in the above table were from 277 individuals (270 gave no answer).

As final questions, and with plenty of space, the group was asked to suggest changes in methods of instruction, in the light of their military experience, and then what other general suggestions they might have regarding graduate training in psychology. The answers to these questions may be summed up in the phrase, "make instruction and training more practical." In one way or another, the majority stressed over and over again the importance of bringing psychology out of the classroom and laboratory

into the real world. This view was expressed throughout the questionnaire—in the answers to questions, in marginal comments, in accompanying letters. It is interesting today to see the many evidences of this attitude in the universities, in private industry, in government, and elsewhere.

TABLE 22
Courses Suggested for Elimination from the Graduate Curriculum
(N = 547)*

COURSES	N	% RESPONSES
Languages.....	40	14.2
Advanced experimental.....	14	5.0
History and systems.....	13	4.6
Physiological psychology.....	13	4.6
Education courses.....	5	1.8
Statistics and mathematics.....	3	1.1
Tests and measurements.....	1	0.4
General psychology.....	1	0.4
Mental hygiene.....	1	0.4
Sociology.....	1	0.4
Aesthetics.....	1	0.4
Orientation courses.....	1	0.4
Unclassifiable responses†.....	11	3.9
No required courses.....	125	44.3
Unknown.....	52	18.4
No answer.....	339	

* See footnote to Table 14 for explanation. Note also that the 282 responses in the above table were from 208 individuals (339 gave no answer).

† No examinations or licenses, 1; courses revised, 1; undergraduate courses for Ph.D., 2; stereotyped research, 1; nothing specific, 1; courses not directly related, 1; thesis requirement for M.A., 1; emphasis on lab, 2; depends on specialty, 1.

SUMMARY

The results are given from a survey by mailed questionnaire to every American psychologist and psychologist-in-training who was in uniform in any branch of the military service in World War II. The purpose was to obtain detailed information about the history of utilization of psychologists in the military service and about the educational plans of those who intended to return to college or graduate school for further training. Of 1,710 individuals circularized, 968 completed questionnaires were analyzed. Among the items of interest are the following:

I. Whereas 95 per cent of those with psychological training in the Navy were officers, only 63 per cent of those in the Army were commissioned. Also, 45 per cent of the persons with psychological training who were in the Army were under 30, in contrast to the Navy, where only 28 per cent were under 30. Of the Navy psychologists, 47 per cent had the Ph.D.; in the Army only 26 per cent held that degree. In general, it can be said that the older the individual, the higher the rank.

The shifts in function in which psychologists had the greatest amount of experience prior to and during military service are striking. Apparently, however, branch of service was not a significant variable with respect to functions performed; nor was rank, except in the amount of administration done by officers. The fields of specialization prior to entering the service were rather closely paralleled by fields of specialization during service.

Over a third of those who completed the questionnaire were originally inducted into military service. Of the total group, only 20 per cent spent more than 5 months overseas.

The duties or functions performed included a great deal of test administration; clinical and counseling work; development of tests; analysis of statistical data; development of training programs; and a variety of other tasks.

Over 70 per cent of all respondents felt that over half of their present duties (just before the close of the war) and over half of their past duties were psychological in nature. In general, low-ranking officers and enlisted personnel considered that a higher percentage of their work was and had been psychological in nature than did the rest of the group.

Answers regarding postwar plans indicated that 39 per cent planned to seek a new position and that 31 per cent wanted to return to professional school or college.

The factors in military service as compared with civilian employment which made psychologists want

to leave the service outweighed those factors which made them want to remain in the service.

II. Of the group of 409 intending to return to graduate school in psychology over half had already received the M.A. degree in psychology.

Columbia University was most frequently chosen for possible further study, followed by Harvard, Chicago, Stanford, New York University, Minnesota, Ohio State, and numerous other universities.

An analysis of psychological functions performed and of chief fields of specialization indicates a tremendous interest in *applications* of psychology. The majority of the group also favored accreditation for psychological work done while in military service.

In addition to G. I. benefits, the average amount of money stated to be needed for education was about \$1,000 apiece; 70 per cent of the group planned to work as well as go to school. An accelerated program of education was apparently desired, but there was lack of agreement as to the most practical methods of acceleration. The group strongly endorsed the idea of supervised practical experience as a required part of graduate training in psychology.

Answers to questions concerning new courses desired, and courses suggested for elimination from the graduate curriculum, together with various free responses, indicated an overwhelming interest in having graduate training in psychology more practical.

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PROCEEDINGS OF THE THIRTY-EIGHTH ANNUAL MEETING OF THE SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

ELIZABETH DUFFY, Secretary

The Woman's College of the University of North Carolina

THE Southern Society for Philosophy and Psychology held its Thirty-eighth Annual Meeting in Charlottesville, Virginia, April 18 to 20, 1946, with the University of Virginia as host institution. All meetings were held in the Monticello Hotel. Arrangements for the meeting were made by a local committee, consisting of Albert G. A. Balz, Chairman, Frank A. Geldard, Lewis M. Hammond, Charles K. Davenport, Frank W. Finger, and Cecile Bolton Finley. The program committee consisted of Harry M. Johnson, Harold N. Lee, Albert G. A. Balz, and Elizabeth Duffy, Chairman.

The Council of the Society, presided over by Christian Paul Heinlein, met in the afternoon, and again in the evening, of April 18. Council members present were: Peter A. Carmichael, B. von Haller Gilmer, Harold N. Lee, Katharine T. Omwake, Fritz Marti, and Elizabeth Duffy.

The opening session of the Society on Thursday evening was a symposium on the Selection and Classification of Aircrew, organized by Frank A. Geldard and presided over by Harry M. Johnson. The subject was discussed under the following headings: in the U. S. Army, John C. Flanagan, Colonel, U. S. Army Air Corps; in the U. S. Navy, John G. Jenkins, Captain H (S), U. S. Naval Reserve; by the Germans, Paul M. Fitts, Lieutenant Colonel, U. S. Army Air Corps; by the Japanese, Frank A. Geldard, Colonel, U. S. Army Air Corps Reserve. The discussion was broadcast over Radio Station WCHV in Charlottesville.

On Friday two sessions in psychology and two in philosophy were held. On Saturday morning there was a joint session for philosophy and psychology. Chairmen for the philosophy sections were Lewis M. Hammond and Charles K. Davenport. Chairmen

for the psychology sections were Frank A. Geldard and Knight Dunlap. Christian Paul Heinlein presided at the joint session.

At five o'clock on Friday afternoon, members and guests of the Society were entertained by the members of the staff of the departments of Philosophy and Psychology of the University of Virginia at a party at the home of Dr. and Mrs. Albert G. A. Balz.

The annual banquet of the Society was held on Friday evening at seven o'clock in the ballroom of the Monticello Hotel. Dr. Christian Paul Heinlein delivered the presidential address, entitled "Lest We Forget!"

The annual business meeting convened at eleven o'clock on Saturday morning with President Christian Paul Heinlein as chairman.

MINUTES OF THE ANNUAL BUSINESS MEETING

President Heinlein called the meeting to order and announced that the Committee on the Revision of the Constitution had submitted to the Council a proposed revision of the Constitution, a copy of which had, on the authorization of the Council, been sent to every member of the Society a month in advance of the annual meeting. The Committee on the Revision of the Constitution consisted of the following members appointed by the president: Albert G. A. Balz, Chairman, Knight Dunlap, Iredell Jenkins, John Paul Nafe, Herbert C. Sanborn, and Elizabeth Duffy. The president announced that the Council recommended that a special business meeting be called at this time for the purpose of receiving the revised Constitution for subsequent action.

Upon motion of Dr. B. von Haller Gilmer, the recommendation of the Council was adopted. The

revised Constitution, as amended in a few minor particulars by the Council, was presented to the Society. The special meeting was adjourned and, after a period of recess, President Heinlein called to order the regular annual business meeting of the Society.

The minutes of the Thirty-seventh Annual Business Meeting were approved as published in the *Psychological Bulletin*, 1942, 39, 573-588.

The report of the Secretary was read and approved. The report contained an account of the activities of the Secretary's office since the last meeting of the Society.

It was reported that seven members of the Society had died since 1942. These were: Kenneth K. Berry, John Madison Fletcher, Frazer Hood, James Burt Miner, Josiah Morse, J. Wallace Nygard, and Therman K. Sisk. Sixteen members of the Society had resigned. Members at the time of the Thirty-eighth Annual Meeting numbered 262.

The report of the previous Treasurer, Dr. Wayne Dennis, for the period from March 30, 1942, to August 25, 1943, was read and approved.

The report of the present Treasurer, covering the period from November 24, 1943, to April 10, 1946, was also read and approved. The balance in the treasury as of April 10, 1946, was reported as \$1,471.00. It was stated that, by action of the Council, no dues had been collected from members in military service from the fiscal year 1943-1944 to the present time. However, the Council had instructed the Treasurer to waive no further dues after the fiscal year 1945-1946.

President Heinlein called for discussion of the proposed revision of the Constitution which had been presented at the previous special meeting of the Society. Dr. Albert G. A. Balz, Chairman of the Committee on the Revision of the Constitution, summarized the chief changes and explained the reasons for suggesting them. After some discussion, the Society passed the motion of Dr. John Paul Nafe that the Constitution, as revised by the Committee and amended by the Council, be adopted at the present annual meeting. In support of his motion, Dr. Nafe stated that the changes proposed were minor and had been under consideration of the Council for a year. The new Constitution and By-laws, as adopted by the Society, read as follows:

CONSTITUTION

ARTICLE I: Name and Object

1. The name of this organization shall be the Southern Society for Philosophy and Psychology.
2. Its object shall be to promote Philosophy and Psychology in the Southern section of the United States by facilitating the exchange of ideas among those engaged in these fields of inquiry, by encouraging investigation, by fostering the educational function of Philosophy and Psychology, and by improving the academic status of these subjects.

ARTICLE II: Membership

1. There shall be two classes of members, designated as members and associate members.
2. In order to be eligible for membership, candidates shall be engaged professionally in one or both of the fields of Philosophy and Psychology, or shall give evidence of a substantially equivalent interest and competence.
3. In order to be eligible for associate membership, candidates shall have pursued for not fewer than two academic years a program of graduate study devoted primarily to Philosophy or Psychology (or both), or shall give evidence of a substantially equivalent interest and competence. Associate members shall not be eligible to hold office or membership in the Council, and shall not have the right to vote; but they shall have the privilege of the floor and of participation in the programs of the Society.
4. Candidates for membership or associate membership shall be proposed by not fewer than two members of the Society, and shall be recommended by the Council for election, before the Society acts upon the candidacies.

ARTICLE III: Officers and Council

1. Officers of the Society shall be a President, a Secretary and a Treasurer, who shall perform the duties usually pertaining to these offices. The term of office of the President shall be one year; that of the Secretary, two years; that of the Treasurer, two years. Members shall not be considered eligible for office unless they have given evidence of abiding interest in the activities of the Society and of devotion to its aims.
2. The Council shall consist of ten members. Six of these shall be elected members. Four shall be members *ex officio*: namely, the President, the Secretary, the Treasurer, and the retiring President. The latter shall serve as a member of the Council for one year after the expiration of his term of office as President. Each elected member of the Council shall serve for a term of three years. Two members shall be elected at each annual meeting of the Society. The Council of the Society shall have the responsibility for organizing and directing the interests and activities of the Society.
3. In recognition of exceptionally lengthy, distinguished and devoted service to the Society, the Society, upon recommendation of the Council, may confer upon a member the title of Honorary Member of the Council, such membership to be for life, with abatement of dues. Honorary

members shall serve on the Council in an advisory capacity, without vote.

4. Officers, and members of the Council who are not *ex officio* members, shall be elected at the annual meeting of the Society, from nominations made by the Council or by members of the Society from the floor. Recommendations for membership in the Council may be made to the Council by any member of the Society, and such recommendations shall be made in written form.
5. In case an office or a membership in the Council becomes vacant, the Council shall be empowered to appoint an eligible member to the vacancy, and the member so appointed shall hold the position until the next annual meeting of the Society.
6. In case the annual meeting is not held, officers of the Society and members of the Council shall retain their positions and shall exercise the functions pertaining to those positions until their successors shall have been elected. If an annual meeting cannot be held during a period of more than two years, the Council in its discretion may provide for the election of officers and Council members, and of members and associate members of the Society, by means of a mail ballot.

ARTICLE IV: Meetings

1. The annual meeting of the Society shall be held at such time and place as may be decided upon at the previous meeting, or in case no decision was reached, at such time and place as the Council may determine.
2. Special meetings may be called by the Council at such time and place as it deems advisable, due notice thereof being sent to each member.
3. If judged by the Council to be advisable, the Council shall present, at the annual meeting, a report concerning the activities of the Society. The Council shall receive annual reports from the Secretary and the Treasurer, and shall cause the report of the Treasurer to be audited.
4. The Council shall have power both to supervise the program of the meetings and to delegate this power.

ARTICLE V: Amendments

1. Amendments to this constitution, which must be submitted in writing, may be adopted by a two-thirds vote of the members present at any annual meeting subsequent to that at which such amendments have been proposed. Amendments to the By-Laws of the Society may be adopted by a two-thirds vote of the members present at the annual meeting at which the amendments are proposed.

BY-LAWS

1. The annual dues of members shall be \$1.50; the annual dues of associate members shall be \$1.00. Failure in payment of the annual dues shall cause membership or associate membership to cease after one year, the fiscal year running from annual meeting to annual meeting, or from such date as the Council may decide.
2. Any former member who seeks reinstatement shall make application to the Council. If membership was terminated

because of failure to pay dues, he will be required, upon re-election, to pay the dues owed at the time membership was terminated.

3. The Council may waive the payment of dues of any member who has retired from active professional service.

Dr. Balz presented a brief report from the Standing Committee on Philosophy, of which he is chairman. President Heinlein stated that the Council recommended the reconstitution of the committee and further recommended the appropriation of an additional sum, not to exceed two hundred dollars, to complete the work of the committee. Upon motion of Dr. Gilmer, the recommendation of the Council was adopted.

On the Council's recommendation, 28 new members were admitted to the Society. These are: Edward Ballard, E. V. Bowers, Stella Bowers, Gladys Guy Brown, R. Elizabeth Brown, Olivia Burnett, A. S. Edwards, James Feibleman, Edgar Foltin, Rosaline Goldman, Leonard Kase, Raymond Katzell, Oliver L. Lacey, Agnes Landis, Martin Lean, Cecil Mann, Ruth Pyche, Dorothy Rethlingshafer, Homer Richey, Loyd Rowland, Janet Schneider, Paul Siegel, Audrey M. Shuey, Isabella Thoburn, Albert S. Thompson, J. P. Thompson, Albert E. Tibbs and Robert I. Watson.

Upon recommendation of the Council, Dr. Knight Dunlap was unanimously elected Honorary Member of the Council for life, in recognition of his long and distinguished service to the Society.

On recommendation of the Council the following officers were elected: President, Peter A. Carmichael, of Louisiana State University; Secretary, Joseph Weitz, of Newcomb College, Tulane University; and Treasurer, Katharine T. Omwake, of Agnes Scott College. Council members elected were: George Boas, of The Johns Hopkins University; Meredith Crawford, of Vanderbilt University; Elizabeth Duffy, of The Woman's College of the University of North Carolina; Frank A. Geldard, of the University of Virginia; Iredell Jenkins, of Yale University; and Harold N. Lee, of Newcomb College, Tulane University.

Dr. John Paul Nafe extended to the Society an invitation to hold its next annual meeting at Washington University, and Dr. Harry M. Johnson extended a conditional invitation from Tulane University. Upon motion of Dr. Balz, it was voted to accept the invitation from Washington University.

with the reservation that the Council be empowered to change the place of meeting if conditions should warrant it.

Dr. Harry M. Johnson moved, and the Society voted, that the Council reconsider the question of the time of the annual meeting. The motion provided that the Secretary be instructed to make a census of spring vacation dates in the South in order to determine whether our customary dates of meeting are the best possible dates.

Upon motion of Dr. Fritz Marti, the Society went on record as extending its thanks to the University of Virginia for the gracious hospitality shown it on the occasion of its Thirty-eighth Annual Meeting.

The meeting was then adjourned.

PROGRAM

Friday Morning Session, April 19.

PSYCHOLOGY

FRANK A. GELDARD, *Chairman*

Measurement of Finger Tremor with New Apparatus.

A. S. EDWARDS, University of Georgia.

The new apparatus invented by the writer will be described. It is made to measure finger movements in three dimensions. Results of experiments with the apparatus will be reported, including the following: measurement of finger tremor in children and in adults; analyses of finger movements with arm free, with elbow rest, and with wrist rest; effects of smoking on finger tremor; and differences in finger tremor between males and females.

An Appropriate Unit for the Measurement of the Level of Galvanic Skin Characteristics.

OLIVER L. LACEY, University of Alabama.

Data obtained from 78 subjects have been examined to determine which of several possible measures of the electrical characteristics of the skin (e.g., resistance, conductance, log. resistance, etc.) is methodologically appropriate. Since the usual statistical tests assume normality of the particular underlying distribution, degree of conformity of the observed data to the normal curve has been made the basis for selection from the possible variables. Analysis according to this criterion indicates that conductance is the measure to be preferred, with log. resistance possibly also acceptable.

Alien Drive, Habit-Strength, and Resistance to Experimental Extinction.

PAUL S. SIEGEL, University of Alabama.

Forty albino rats were given 40 reinforcements of the bar pressing habit in a Skinner-box situation, under the motivational conditions of 22 hours food privation. On the succeeding day the animals were extinguished to a criterion of no responses within an interval of five minutes. Two groups of 20 animals each were designated during the latter stage. One group was extinguished under the original drive condition. The other group was extinguished with an *additional* thirst drive of 22 hours. Differences between the two groups with respect to resistance to extinction and time to extinction are discussed with reference to Hull's treatment of adaptive behavior.

Sound-induced Convulsive Seizures in the Hamster.

R. A. PATTON, University of Pittsburgh and the Psychiatric Institute and Clinic, Pittsburgh, Pa.

Behavioral symptoms associated with a controlled deficiency of magnesium have been studied in 42 male hamsters of uniform dietary and genetic background. As in similar studies with the rat, a standardized auditory test situation was used for the induction of convulsive seizures.

A group of 16 hamsters was maintained on a purified diet deficient in magnesium. The animals received a one-minute period of auditory stimulation daily. Hyperirritability was apparent in the animals after six days on the deficient diet. Severe convulsive seizures with a latency of from two to fifteen seconds could be induced regularly in all animals between the seventh and twentieth days. The average survival for the group was 20 days, with the animals dying either in sound-induced seizures or as the result of "spontaneous" fits which appeared in the absence of known sensory stimulation. Magnesium supplements given a group of 10 convulsive animals resulted in a low incidence of sound-induced sensitivity and a much longer survival period.

Normal growth and behavior were observed in a group of eight control animals allowed free access to the basal diet with magnesium added. Sensitivity was likewise not observed in eight paired-feeding controls fed the complete diet but restricted in amount to that voluntarily consumed by the deficient group.

These results provide additional evidence that nutritional factors may be of primary importance in the etiology of sound-induced convulsive seizures in animals.

Semantic Aspects of Learning Theories. CECIL W. MANN, Tulane University.

Words are sometimes used as if they were referents instead of symbols. Confusion in all scientific fields follows when this happens. The semantic evaluation of symbols is necessary as a common basis for the discussion of learning theories. Some aspects of students' uses of symbols are here presented.

Errors in the Psychology of Judgment. LYLE H. LANTIER, Vassar College.

This paper will examine the status of judgment as a systematic psychological category, in the light both of the neglect and of the abuse of judgment at the hands of psychologists. On the first score, any student can discover that systematic treatment of judgmental behavior is almost universally omitted from psychology text-books. (In the books used in the writer's introductory course the word is not listed in any index.) The situation is well described by a recent author who attempted to find out by questionnaire how various "scholars of note" defined judgment. Among her conclusions was the disillusioned observation that "psychologists have left the definition of judgment to logicians, and vice versa." I shall try to say something about a definition of the concept and to show that it can serve a useful purpose as an objective behavior category in a behavioral region needing such conceptual tools. These remarks will refer to recent research which seems to justify the use of judgment as a formal dimension of psychological analysis.

The paper will also attempt to show that certain abuses of judgmental data might not have arisen if greater experimental and conceptual attention had been given to the activity of judging. These "errors of commission" are illustrated in the work of Thurstone on social attitudes and in the use of judgments of personal traits as indicators of objective behavior entities. In this connection judgments relating to discriminatory practices which the judges would sanction against ethnic groups have been secured from several groups of students under

different conditions. Certain sets of results will be cited in support of the general contention that it is illicit to infer a single general attitudinal continuum from the judgments which Thurstone secures from his subjects.

PHILOSOPHY

LEWIS M. HAMMOND, *Chairman*

The Perspective Influence of Semantic Presuppositions.

EDWARD THOMAS RAMSDELL, Vanderbilt University.

The divisive influence of words in human relations has been sharply defined. Equally separate are the presuppositions of meaning which determine our reading of facts. What facts are understood ultimately to mean depends upon the point of view from which they are read. The cleavages which separate minds are not alone linguistic but ontologically definitional.

The perspective within which any mind approaches experience as a whole is determined by what that mind regards as semantically primary. For any given mind those aspects of experience which are regarded as crucially significant provide not only the ultimate norms of meaning for the reading of all facts but determine one's ontological categories as well. Such semantic evaluation becomes the perspective through which one literally sees all facts (*perspicere*).

Clearly one's semantic premises are assumptions. We know facts but believe norms of meaning. There is no escape from a semantic faith, therefore, at the threshold of rationality. The perspective of any mind reveals the deep, dynamic interests of the self. Rationality therefore is always something more than merely intellectual process. It is a turning of the self, at the center of its being, to that which it regards as crucially significant.

Learning from Experience. GEORGE BOAS, The Johns Hopkins University.

This paper is an attempt to show the limits of experience as a source of knowledge. The following questions are raised: (1) Knowledge is always an answer to a question; how does one learn what questions are to be raised? (2) Experience must be submitted to certain controls; what is the source of these controls? (3) Knowledge to be intelligible

must be expressed symbolically; whence do we derive these symbols? (4) The validity of empirical knowledge is limited by its relevancy, which would seem to presuppose that certain events are repeatable; but to repeat an event is to abstract from it its date and location; to what extent is abstract knowledge non-empirical? (5) The validity of abstract and deductive reasoning and the belief in logical necessity would seem to eliminate chance as a real factor in knowledge; how far is such elimination possible?

The usual answers to these questions are given in what may be called "the Kantian tradition." The author rejects this tradition and attempts to justify acceptance of learning from experience in spite of its limits.

Epistemology, Metaphysics and the Fact of Inquiry

ALBERT G. A. BALZ, University of Virginia.

This paper asks whether epistemology and metaphysics must not take their points of departure from the same matter of fact. This matter of fact must be taken for granted in any and every philosophical effort. The paper urges that this minimal matter of fact could be defined as the fact of inquiry itself; that analysis moving from the fact in one direction produces epistemology, moving in another direction, metaphysics, while both efforts are continually interactive.

The Genesis of the Dialectic. JAMES FEIBLEMAN.

This is a paper devoted to the ontological aspects of the derivation and development of that feature of the universe of existence which has been termed the dialectic. Starting with the discontinuous nature of matter as revealed by quantum mechanics, leading to the inherent oscillating nature of the vibratory system which every actual and physical thing is, the stages of disturbance-and-return, of the dialectic scalar, and, finally, of the dialectic vector, are sketched out and described in detail. In this way the elements which go to make up the full dialectic of history as comprised by the logic of events are exposed, and that logic completely exhibited.

Paradoxes of Empirical Probability. PETER A. CARMICHAEL, Louisiana State University.

We presume that the more frequently two or more events occur in conjunction without exception,

the more certain it is that, given the occurrence of one of them, the other or others will occur also. But if it be assumed that some classes of events are finite in number, then the more frequently a conjunction of them occurs, the less certain it is of recurring.

A tendency of events guarantees nothing concerning unwitnessed events, since it is not illogical to suppose the opposite; or if it is illogical, and that stands as a ground against it, then not events but a *a priori* principle emerges as the ground of empirical probability.

Even if frequency shows results which contradict a *a priori* probability, they will either (1) exhibit some further a *a priori* order—law, fixity of species, e.g.—or (2) be discrete and so lack predictive virtue.

"Empirical" or "positive" goes no farther than perception—they give no connection with unwitnessed events; only a *a priori* principles and their implicates do this.

Frequency and "collectives" are no more than illustrations of the Method of Agreement. Limits are wholly non-empirical.

Et alia.

Friday Afternoon Session, April 19.

PHILOSOPHY

CHARLES K. DAVENPORT, *Chairman*

Philosophical Obligations of the Psychology of Religion. FRITZ MARTI, Marietta College.

Psychological generalizations are always precarious. What the psychologist ought to put before us is not the general but the typical. The proper investigation for the psychologist of religion is in inquiry into those typical entities which can and do become *kýrioi*, lords of souls. The question is why, in a given time and place and for this or that individual, a specific denominational image suffices to express the eternal authority which, though manifest in temporal revelations yet, in truth, finds no irrevocable commitment in them. For us, the identification of God with the god of any religion is a psychological riddle. Investigation may disclose that, in an individual, there are several prototypal patterns, developing simultaneously, as the individual grows, but having each a peculiarly significant place during a specific period of the individual's development. Something like a dramatic plot may be traced, comparable to the myth-

ological plot according to which the rule passes from Uranos to Kronos and from Kronos to Zeus. And, behind these presiding gods, the Will of God may be discovered, faintly but firmly delineating the individual's fate, as still haunted, or as an already blessed life. The psychologist must adhere to the maxim: In the study of the gods and lords, never forget that, according to the theologian, God is ineffable. In secular language: Never forget that the discovered facts are nothing ultimate. Of course, such maxims remain meaningless for him who feels no obligation to confirm the findings of faith while denying the literal meaning of religious imagery. The relativist can have no philosophical obligation, and the denominationalist cannot see the psychological question.

The Ontological Significance of Negation. ROSAMOND

M. KENT, Newcomb College, Tulane University.

The problem may best be approached by an investigation of the relation of logic to metaphysics. The two fields are related in the way in which mathematics is related to practical physics. Failure to realize that logic sets up a standard that experience only approximates has led to a distortion of reality and a misconception of the function of logic. Negation, like the other logical processes, may safely take on ontological significance only when it is kept in mind that a transition is being made from the abstract and general to the concrete and particular.

Poetry and Philosophy. LEWIS M. HAMMOND,
University of Virginia.

This paper points out some connections between the art of poetry and the universal intellectual (or logical) arts as they are described and practiced by several of the great philosophers.

What Is a Normative Science? IREDELL JENKINS,
Tulane University.

It is the thesis of this paper that the sharp disjunction that modernity has drawn between descriptive and normative disciplines is both vicious and unnecessary. It is vicious because it establishes dichotomies in experience and nature; because it entails further invidious distinctions, such as those between facts and values, measurement and criticism, and the actual and the ideal; and because it

attaches far more significance to one of these domains than to the other. It is unnecessary, because it depends upon a gratuitous assumption about the character of experience and nature.

It is the purpose of this paper to establish these contentions by detailed arguments; and, further, to indicate briefly the lines along which a reconciliation can properly be effected.

Some Basic Problems in a Psychology of Religion.

A. E. TIBBS, Tulane University.

Basic problems are always in a frame of reference. In the past the chief frame of reference at one time was the assumption that religion in a scientific age is unreal. With this as a starter, men like Spencer and McDougall proceeded to enquire as to why so many people have been deluded through the years. Hence the "ghost theory" as to the origin of religion.

The prevailing theory today assumes the origin of religion and proceeds to show how religion functions. This functional theory is in a better position to account for the phenomena of the psychology of religion. William James sought to harmonize psychology in a scientific way with true religion. This kind of religion, with him, had to do with some kind of "over-belief" or the postulation of an "extra-marginal self" (*The Varieties of Religious Experience*, pp. 509-19). Hence the proof for the existence of God. But to prove the existence of God is impossible, as Kant and others have shown. James' position, therefore, from which modern psychology of religion has not become entirely emancipated, only creates further problems. No harmonic position is sufficient for today. There are serious conflicts between science and religion, and we shall make no progress by being "tender-minded" here.

But two other basic problems are the tendencies to surrender the subject to divinity schools and theological seminaries, and the inroads of sociology in taking over the materials under the new subject, sociology of religion. What is our applied psychology doing?

Enrique Molina on Some Philosophic Antitheses.

MARJORIE S. HARRIS, Randolph-Macon Woman's College.

Molina holds that doubt is a wise and reasonable starting point for philosophic search so that one will

not arrive at precipitate views. Yet one must not resign himself to remaining in a chaos of disorientation; he must express, after genuine exploration, what has been his experience. Indeed life itself launches one on his philosophic quest. Not only wonder, but pain and mistake stimulate one to determine what adjustments he must make to limits imposed by the sensible world and what freedom he can realize in investigating the mysteries of the intelligible world.

An unwearying attempt to understand will reveal that determinism and freedom are but two successive moments of the same process. Again, action is an essential ally of contemplation, else one will arrive at a philosophy which is only a work of art and not a genuine philosophy. Also, spiritual values give firmness and serve to integrate the artificial, material order which man has created; for, without such values, this material construction will begin to crumble as it has in all periods of decadence.

In his suggested syntheses of these antitheses, how far can we follow Molina?

PSYCHOLOGY

KNIGHT DUNLAP, *Chairman*

Paintings of Psychotic Patients. EDGAR M. FOLTIN, College of William and Mary.

A study was made of the paintings of the patients of the Eastern State Hospital, Williamsburg, Virginia. The paintings were analyzed, one patient at a time, without the knowledge of either case history or diagnosis. The findings were noted and later compared with the case history. A great amount of identity between the two was found.

Some mental characteristics seem to find clearer expression in spontaneous paintings than others.

The clues for the findings are only partially given in the actual pictorial contents. Equally important are choice of colors, organization of the picture and brushwork. The pictures seem to be an adequate expression of the personality at the moment of creation. Traumatic experiences, such as recent hospitalization, may cloud the more permanent features of the personality. It seems advisable to spread the creative efforts over a period of time in order to obtain a cross-section of the personality. The effects of intensive treatment, such as electric shock, frequently show in the pictorial contents.

The progress of a patient can be followed in paintings where the clearing-up of psychotic episodes finds expression.

Practical value of intensive picture analysis as a supplement to clinical diagnosis and prognosis seems indicated.

Stereotypes: Before Pearl Harbor and After. DOROTHY W. SEAGO, Newcomb College, Tulane University.

This paper is an analysis of trends towards persistence and change in stereotyped attitudes towards national groups, over a period of five consecutive years, from the fall of 1941 to the present, as related to changes or events in our own American scene. Data on attitudes towards national groups are available for groups of women college students for the years 1941-1945. There is evidence in the data of strong persistence of attitude towards some groups of nationals and equally good evidence of change in attitude towards other groups. A tentative interpretation of the data tries to account for these differences in the character of response.

Age-Grade Progressions in Social Attitudes, and Their Predictive Value. CECILE BOLTON FINLEY, University of Virginia.

The following social attitudes have been found to show an age-grade progression from the sixth grade through high school, college, and adult criterion groups: approval of a wider and wider variety of individuals differing with respect to age, sex, race, religion, occupation, etc.; approval of group activities of such individuals; approval of organizations of increasing scope, ranging from those having a community basis to those having an international basis; personal concern for individuals and their organized activities. A parallel decrease in exclusions from family, community, national, and international groups on the basis of social distance occurs.

Scores on a Social Opinions Inventory which samples the attitudes above have been found to be predictive of variety, scope, and effectiveness of social activities when the latter are measured independently by student votes for election to hypothetical committees and opposite groups.

Criterion groups of "social" and "anti-social" individuals have yielded high positive and high negative scores respectively with distributions

widely separated. Racial, religious, economic, intellectual factors have shown no relation to scores on the inventory.

Growth in Children's Ability to Generalize. JANET C. SCHNEIDER, Veterans' Guidance Center, Tulane University.

In attempting to repeat and expand Victoria Hazlitt's experiment on children's thinking, and to compare results in the light of Piaget's theories of conceptual development, data on the child's ability to generalize, see common elements, and make exceptions are presented.

Correlation Coefficient Reinterpreted. HENRY F. DICKENSON, Lincoln Memorial University.

The substantiation of an interpretive correlation conclusion led to the construction of a new coin dropping apparatus, and consequently, not to verification, but to a new interpretation of the correlation coefficient. Quantitative data, in lieu of error computations, explains why 32,088 pairs of cases were used as the basis of the reinterpretation.

Prognostic Value of Psychological Tests in the Navy Officer-Training Program. K. B. WATSON, Duke University.

From July 1, 1942, through February 28, 1946, approximately 4,000 students attended Duke University in the Navy Training Programs. Of these, 1,065 entered as first-semester Freshmen and pursued a uniform curriculum. A battery of placement and aptitude tests was given to all students at the time of entrance to Duke. The present study is an evaluation of the use of test results as a basis for predicting success in the various phases of the Navy Training Program. Included in the study, among others, are the following analyses: (1) Relationship between tests scores and academic achievement (Uniform Navy Curriculum). (2) Relationship between test scores and success in Midshipman's School. (3) Relationship between test scores and success in the Naval Reserve Officers Training Corps. (4) Relationship between independent measures of aptitude (ratings on "officer-like qualities," etc.) and success in various phases of the training programs. (5) Relationship between Navy Achievement Test scores (administered by the Navy) and the variables mentioned above.

(6) Critique of tests and testing procedures. (7) Recommendations for the use of tests in peacetime training programs.

The Effect of Shape- and Color-Coding of Airplane Controls. JOSEPH WEITZ, Newcomb College, Tulane University.

Using a mock-up control column with seven different controls used to operate a discrimination reaction time apparatus, it was found that after the subject had learned the correct positions on one set of controls, changing these positions had a detrimental effect on speed and accuracy of performance. However, this effect was minimized to a very marked degree if the control handles were coded with respect to color and shape. In the absence of visual cues the shape-coding alone reduced the number of errors and increased the speed of performance.

Saturday, April 20

JOINT SESSION

CHRISTIAN PAUL HEINLEIN, *Chairman*

Observation vs. Interpretation in Science. LOUIS O. KATTSOFF, University of North Carolina.

Verification of Metaphysical Hypotheses. HAROLD N. LEE, Newcomb College, Tulane University.

This paper explores some of the implication of the position that metaphysical knowledge is hypothetical in the same sense that the knowledge of natural science is hypothetical. There is no such thing as The Truth as metaphysicians have often used the term. There is no such thing as the truth about Reality. Everything is real in some category and unreal in others.

A metaphysical hypothesis must have logical consistency; but beyond this it must furnish principles for ordering our experience so that we can "get around in it" both by action and understanding. It must furnish categories such that we can make judgments of real and unreal that will not bring us either to grief in our practical affairs or to frustration in our intellectual enterprises.

Three metaphysical hypotheses are investigated from this point of view: (1) Cartesian dualism; (2) the existence of other peoples' minds; (3) the existence of physical interphenomena.

The Problems of Memory in Occasional Causality.

HARRY M. JOHNSON, Tulane University.

In this context, the word "occasionalism" denotes the doctrine that no natural event causes another, but that both are common effects of a prior cause, the nickname of which is God. If two sets of events, such as a mental set and a physical set, appear to stand in a lawful correspondence, the occasionalistic explanation is that God worked uniformly. In those varieties of occasionalism expounded by Malebranche or by the *Mutakallemim*, God is not only the creator of the physical universe, but is also its preserver. Only he preserves it by *recreating* it from one instant to the next. Time, in occasionalism, is atomic: between two successive instants are temporal vacua. God can interrupt the process of recreation at will; he can resume it or not, as he will; if he resumes it, he can invest an individual substance with any set of accidents that please him. Among these accidents are patterns of conductance through the nervous system, which in other systems, we call hysteretic or mnemonic. Thus, according to the occasionalists, an individual, when recreated, has a set of virtual memories, but there is no way of proving or disproving that they are also actual. Fortunately, the question has no practical importance, even though many historians of conventional philosophy have left it unmentioned.

An Experimental Check on the Fechner Formula.

KNIGHT DUNLAP, University of California at Los Angeles.

Fechner's formula presupposes that if one employs the method of "equal appearing" intervals, and if one has two stimuli of the same modality A, C, then the stimulus B which lies between them will appear to be equally different from both if its intensity is the geometric mean between the intensities of the other terms: *i. e.*, if

$$B_1 = \sqrt{AC}.$$

Some forty years ago it turned out that among one class of subjects this relationship was consistently approximated; but among another class the relation was much more nearly

$$B_2 = (\frac{1}{2}) (A + C)$$

and that for still another class,

$$B_3 = (\frac{1}{2}) (B_1 + B_2).$$

The procedure was recently improved upon, and is now being used under more favorable physical differences and on subjects unspoiled by experience.

Some preliminary results follow, with mention of some pitfalls. f

PROCEEDINGS OF THE TWENTY-SIXTH ANNUAL MEETING OF THE WESTERN PSYCHOLOGICAL ASSOCIATION

LESTER F. BECK, Secretary-Treasurer

University of Oregon

THE twenty-sixth annual meeting of the Western Psychological Association was held at Stanford University June 28-29, 1946. Dr. E. R. Hilgard was local chairman. More than two hundred members and guests attended the various concurrent sessions. The program consisted of forty papers, two panel discussions, and continuous previews of recent psychological films. The presidential address, entitled "Clinical Psychology—Whither Bound", was delivered by Dr. Jean Walker Macfarlane of the University of California.

At the annual business meeting, the following two resolutions were unanimously adopted:

1. The increasing demand for professional qualified psychologists, most notable in the field of clinical psychology, presents both a challenge and a hazard. The dangers of lowered standards of professional competence and of professional training are not to be minimized. With awareness that this problem is neither regional nor temporary, be it resolved first, that in the appraisal of qualifications of departments of psychology offering professional training, methods based on superficial information, while perhaps necessary as a temporary expedient, be recognized as presenting a possibly distorted and incomplete picture which cannot be finally approved, and second, that for the purpose of maintaining uniformly high standards of training, the American Psychological Association be urged (a) to formulate and publish a statement of defensible standards for training institutions, and (b) to institute adequate procedures, possibly involving visiting committees, for determining the extent to which departments of psychology meet the established standards.

2. Resolved that the governor of each of the Western States be urged to convene a board consisting of representatives from the various state departments offering training opportunities in clinical psychology together with representatives from the various institutions of higher learning certified by the American Psychological Association as possessing adequate training facilities in clinical psychology for the purpose of (a) defining training standards and functions of psychological internships in various state departments, and (b) passing on qualifications of candidates for such training positions. It is suggested that members of said board from state departments be designated by the appropriate department heads while those from institutions of higher learning be selected by the presidents thereof.

The secretary was instructed to forward a copy of the first resolution to the central office of the American Psychological Association, and a copy of the second resolution to the governor of each of the Western States.

Officers of the Association, elected for the year 1946-1947, are: President, J. P. Guilford, University of Southern California; Vice-President, Maud A. Merrill, Stanford University; Secretary-Treasurer, Lester F. Beck, University of Oregon. The 1947 convention will be held in the Los Angeles region with the host institution to be announced later.

PROGRAM OF PAPERS

Friday Morning, June 28

Session I: LEARNING

E. R. HILGARD, Chairman

Spread of Effect in Verbal Serial Learning. DOROTHY MARTENS, Stanford University.

Lists of twenty-five adjectives were each presented twice by means of a memory drum. The subjects were instructed to respond to each word with any number between one and ten. Two responses to each list were arbitrarily called "Right;" the others were all called "Wrong." The number of responses repeated on the second presentation of each list was tabulated both for the "Right" responses and for the four responses preceding and the four following the "Right" responses. The serial position of the "Right" responses was systematically varied. A baseline was obtained by using the same procedure with a control group with the exception that responses were neither rewarded nor punished. A backward as well as a forward positive gradient of effect was found. In addition, the punishment "Wrong" decreased significantly the repetition of the responses which it followed.

The Effect of Extinction of a Generalized Response on the Reconditioning of the Original Response.

MONCRIEFF H. SMITH, Jr., Stanford University.

Recent experiments have indicated that the phenomenon of Retroactive Inhibition cannot be explained entirely in terms of competition of response at the time of recall. A second factor similar to the extinction of a conditioned response must be assumed to be operating at the time of interpolated learning. However, the response that might be extinguished at the time of interpolated learning is a generalized one, hence, identification of this second factor in Retroactive Inhibition with extinction must begin with the demonstration that extinction of a generalized response decreases the strength of the original response. It was demonstrated with human subjects that the strength of the conditioned eyeblink response to a 1000 cycle tone was weakened by a non-reinforced series of presentations of a 1967 cycle tone.

The Effect of Electro-convulsive Shock on General Activity of Rats. C. L. WINDER, Stanford University (introduced by C. P. Stone.)

Electro-convulsive shock in a group of thirteen rats significantly reduced the amount of their voluntary activity for a limited period of time. Even in the first twenty-four hours following shock, activity showed a major change.

In the post-shock period, the tendency toward a return to normal activity was apparent at once, as evidenced by the fact that activity during the five days following the last shock was significantly greater than that during the last five-shock series. The activity level did not reach the pre-shock level within thirty days following the last shock.

The Ease of Learning a New Habit in Relation to the Disorganization of an Interfering Habit as Affected by Electro-Convulsive Shock in the Rat. M. W.

HOROWITZ AND C. P. STONE, Stanford University.

The hypothesis tested here was that a previously learned habit, disorganized by electro-convulsive shock, would give less interference with the learning of a new habit. Thirty animals (five males and twenty-five females) were run on the Stone Multiple Discrimination Box to a criterion of four out of five trials. Of twenty-three successful animals, thirteen formed the shock group and ten the control. The new habit consisted of switching the correct path to the dark alleys. Both groups received identical training except for the shock.

The shock had a measurable, disorganizing effect on the original habit, but the control group tended to learn the new habit more readily. The original hypothesis must therefore be discarded.

The Course of Change in Intellectual Functions Associated With Electro-Convulsive Shock. CALVIN

P. STONE, Stanford University.

Five forms of the Army Alpha intelligence test were administered to fifteen hospital patients at spaced intervals during and after a course of electro-convulsive shock therapy at the New York Psychiatric Institute and Hospital. The test scores show, with but few exceptions, an appreciable decline from the first to the last of the shock series and a corresponding rise in scores during the three weeks following the last treatment. The mean of final test scores for this group of patients is approximately ten per cent higher than that of their best previous scores (usually the initial test score). This gain is ascribed chiefly to improvement in the mental status of the patients, as a group. Three patients who had taken one or more standardized intelligence tests before the onset of illness afford a basis for comparing the relatively normal, pre-

illness level of test performance with that following the course of electro-convulsive shocks.

A Study of Learning on Psychomotor Tests. NEIL D. WARREN, University of Southern California.

Three psychomotor tests were administered to each of 210 Army Air Forces Aviation cadets who had been classified as pilots but had not entered into training. The tests were repeated daily for seven days. Learning curves were drawn for each cadet on each test. Scores derived from the curves were validated against later performance in pilot training. Intercorrelations among the learning scores were determined.

There was little indication of a learning-ability factor common to the three tests. Learning scores derived from the intensive practice had low correlations with learning to pilot an airplane. In each instance the initial score on the test had greater validity than the final score following practice.

Experimental Investigation of Structural Lag in Perception. DAVID GALLOWAY, University of California (introduced by Egon Brunswik).

In an exploratory study fifteen selected chromatic and achromatic slides of real life situations were projected individually upon a screen to a total of over one hundred students. Some of the subjects saw certain slides in a series of eight successive stages proceeding from great blurredness to full focus; others saw the same slides in only one or another of the later stages of clarity. Each exposure was four seconds.

A preliminary survey of results obtained in collaboration with Hans Baruch suggests a superiority—in terms of content recognition—of presentations not preceded by more blurred stages of the same slide. A large proportion of the inadequate responses given at the later stages of serial showings reveal repetition of responses given to previous, more blurred projections, suggesting a possible perseveration effect underlying the phenomenon described.

Friday Afternoon, June 28

Session II-A: INTERESTS AND ATTITUDES

C. P. STONE, *Chairman*

Attitude-Experience Characteristics of Male, American-Jewish and American-Irish Youth, With Re-

ference to use of Alcoholic Beverages. DONALD D. GLAD, Stanford University (introduced by C. P. Stone).

A consistently high rate of inebriety among American-Irish ethnics contrasts with a negligible rate among American-Jewish. The present study was designed to discover attitude-experience characteristics of youth of these groups, with reference to this difference.

Forty-nine cases each of Irish, Jewish, and Control high school youth were matched on age, I.Q., and socioeconomic status. They were exposed to a projective rating scale, an exploratory interview and a questionnaire. These instruments had been designed to provide data to test the following hypotheses: 1) That a restrictive attitude of parents toward a son's use of liquor will produce excessive drinking; a permissive attitude will produce moderation. 2) That a preference for high-proof liquors will be found in groups having a high inebriety rate. 3) That a self-consciously distinct minority group will attempt to behave in accordance with the most acceptable standards of the larger society. Excesses in either direction (abstinence or inebriety) will be avoided for the sake of conformity.

An Extension and Evaluation of Association Word Lists. DONALD P. WILSON, University of Redlands.

A survey of clinics and laboratories revealed that various lists in current use now include 300 different words. Since over thirty years have elapsed since the Kent-Rosanoff tables were published, new frequency tabulations were established for all 300 words.

Different lists for psychiatric and experimental usage were compiled and a study of sex differences as influencing both examiner and subject were made. The 300 words were administered clinically to 300 subjects and by means of some 200,000 tabulations, various criteria of selection and elimination were applied, resulting in eight reference categories and lists, each arranged from "high" to "low".

From a composite of these eight groups, the 100 words occurring nearest each opposite end of a linear continuum compose the words more suitable for a laboratory list and clinical list, respectively. Both lists present a skewed distribution, with the first thirty words indicative, efficiency extending

past the fiftieth word, and thereafter declining in value.

A Scale for the Measurement of Political-Economic Conservatism. DANIEL J. LEVINSON, University of California.

The design of the present scale was guided by a theory of political-economic conservatism (PEC) which included the following ideological themes: general acceptance of the American *status quo*; ideas about the nature, desirability and possibility of *social change*; attitudes regarding the balance of power between *government, business and labor*, and the economic functions of government; acceptance of *general conservative values*; and attitudes regarding *current political issues*.

A sixteen-item PEC scale was formulated and given to 140 students at the University of California. The reliability of this scale was .74 and it satisfied other statistical requirements. Its validity is indicated by other results presented.

The data indicate that PEC is not always a unified disposition in the person. More subtle and complex ideological patterns are revealed by qualitative analysis of individual patterns of scale response. Some of these patterns are discussed.

Ethnocentrism and a General Mental Rigidity Factor.

MILTON ROKEACH, University of California.

It is hypothesized that the ethnocentric individuals are characterized by mental rigidity which will also manifest itself in solving non-social intellectual problems. High and low prejudiced groups (upper and lower half) were selected by means of the U.C. Public Opinion Study Ethnocentrism Scale. Intellectual rigidity was measured by having subjects solve problems in which required quantities of water are obtained by manipulating three jars of given capacities. To establish a set, several problems are presented, solvable by only one complicated method. Then follow critical problems solvable both by the complicated and by a more simple method. Subjects may figure problems on scratch paper. Subjects may write solutions verbally or arithmetically. Thirty-five highs were compared with thirty-five lows. Highs gave more complicated solutions (5% level), used more scratch paper (1% level), verbalized more solutions (1% level). Four earlier experiments with 324 subjects

corroborate these results, indicating substantiation of the hypothesis.

Interests and Personality Traits of Bible Institute Students. J. A. MORRIS KIMBER, Ph.D., Senior Counselor, Veterans Guidance Center, University of Southern California.

Approximately fifteen thousand students are registered in eighty or more Bible institutes in the United States. These schools are strongly Fundamentalist in theological position, and rigid in discipline as compared even with the denominational colleges. Students are carefully selected on the basis of religious experience and life purpose. With the object of discovering interests and personality traits of such students, a battery of psychological tests was administered to one student body. These students ranked at the 25th centile for college freshmen on the A.C.E. Psychological Examination, and had scores which were significantly lower than those of university students in self and social adjustment, as measured by the California Test of Personality. The outstanding interest of both men and women as measured by the Kuder Preference Record was in Social Service. Computational and clerical interests were conspicuously low.

Optimism and Religion. R. NEVITT SANFORD, University of California.

A scale for measuring optimism concerning the consequences of the war (W.C.O.), a scale for measuring general optimism (without reference to the war) (G.O.), and a personality-social background questionnaire were administered in 1942 to 203 University of California students. (Dr. H. S. Conrad was the principal author of the optimism scales.)

The reliability of the W.C.O. scale is .68, that of the G.O. scale, .65; and they correlate .40. Questionnaire items in the area of religion were among those most closely related to optimism. In general, church membership and frequent attendance were associated with relatively high G.O. but with relatively low W.C.O. Jews were lower than Christians on G.O., but higher than Christians on W.C.O. All the results bearing on optimism and religion are presented and, with the aid of some findings from other areas of the question-

naire, explanations in social-psychological terms are offered.

Session II-B: GUIDANCE AND THERAPY

EGON BRUNSWIK, *Chairman*

Assorting Entering College Students According to their Potential Major by Means of Background Information, Interests, and Attitudes. RALPH H. GUNDLACH, University of Washington.

College entrance requirements usually stress high school academic and college aptitude performance, and sometimes measures of special aptitude for certain professional schools. These predict general college success with a limit of accuracy around .6 or .7.

Another area of exploration for predicting success and guiding students is the discovery of peculiarities which are common to persons in different academic departments.

This paper reports progress in a study seeking to find kinds of items that do not measure competence or personality as such, but matters of opinion, interest, and attitude which can be used to predict departmental majors. A schedule of 100 multiple choice items has been prepared. Preliminary results showing the grouping and the differentiation of departments are available.

Scholastic Achievement of Veterans. GORDON W. READ, University of Oregon.

Working from the hypothesis that the veteran is doing better scholastically than he did previously, a study of the scholastic achievements of veterans at the University of Oregon has been made.

The veterans show a mean increase of .366 grade points over the pre-service G.P.A.'s. A control group of non-veteran students gave a mean increase of .216 grade points from their first to their last three terms in college. This difference in increase between the two groups is not significant. Therefore, we may say that any increase the veteran makes may be no more than would be normally expected of a college student.

Further research shows that the married veteran made a significantly greater increase than the non-married veteran. The difference between the veterans under Public Law 346 and those under Public Law 16 was shown to be highly significant in favor of those under Public Law 316.

An Analysis of Predictions of Delinquency Based on Case Studies. DONALD W. TAYLOR, Stanford University.

A psychiatrist and two social workers independently made case-study predictions concerning the possible future delinquency of a large number of boys. Each prediction was expressed in terms of an 11-point scale and the chief factors upon which it was based were recorded.

Agreement on the predictions was relatively high. Among the 59 variables employed in analyzing the protocols, the three most frequently mentioned were adequacy of home, quality of neighborhood, and intelligence of the boy. The two most interesting findings were: First, although most of the variables were "discriminating" in the sense that favorable comments were predominantly associated with high and unfavorable with low ratings, several frequently-mentioned variables proved to be "non-discriminating." Secondly, there was no correlation between the extent to which in each case the judges agreed on the items listed in the protocols and the extent to which they agreed on the predictions.

Some Personality Factors Involved in Adult Male Enuresis: A Study of 76 Enuretic Illiterate Soldiers and 76 Non-Enuretic Controls. WILLIAM D. ALTUS, University of California, Santa Barbara College.

Seventy-six verified enuretics in an Army Special Training Center were compared with 76 other non-enuretic trainees, who were matched in (a) Wechsler verbal IQ, (b) chronological age and (c) racial or linguistic group. Comparisons were made in (a) adjustment as determined by an orally-administered neurotic inventory, (b) arrest pattern, (c) occupational level, (d) marital and parental status, (e) ordinal position in the family and (f) incidence of venereal infection. One partial generalization was that adult male enuresis is an indicator primarily of poor adjustment (perhaps anxiety) and not of low intelligence or marginal economic status, except as a contributing factor.

Group and Individual Psychotherapy as an Adjunct in the Treatment of Allergy. DOROTHY W. BARUCH and HYMAN MILLER, Southern California School of Medicine.

A number of patients were referred by their physicians to a series of group therapy sessions. Among the patients were five with allergic symptoms. Three of these sought individual therapy to supplement the group experience.

The present paper is a preliminary report of what happened to these subjects in the group and individual sessions. It describes the type of group and individual work done with them. It indicates the movement manifested in terms of the therapist's impression, the physician's judgment and the patients' own statements. It attempts also to evaluate the respective roles of group and individual psychotherapy in the treatment of these subjects.

The Role of Psychological Insight. HARRY C. STEINMETZ, San Diego State College.

Progress is reported of research under way designed tentatively to answer such questions as: How unitary is the ability to predict the behavior of others? What are the traits of good judges in terms of categories being judged? How well do judges of others recognize their own insights and traits? How do age, sex, education, and scholarship figure as factors? How are "test" insight and "person" insight related? The epistemological subjects (psychological objects) were a bright girl of seventeen and a borderline man of forty-seven. The instrument used, with rating scale, was the Guilford-Martin Inventory of Factors GAMIN, with special attention to ascendancy, masculinity-femininity, and nervousness.

Appeal is made for further frank effort to devise performance tests of psychological abilities. Techniques are suggested.

An Adaptation of Psychological Consulting Techniques to Individuals Seeking Vocational Readjustment in the Reconversion Period. J. GUSTAV WHITE, California State Department of Education, Whittier College.

A survey of present economic situation indicates at least 25,000,000 American workers displaced by the war who are in various stages of need of psychological consulting service. These include the 11,000,000 veterans, the 12,000,000 ex-war workers, the 2,000,000 surplus government employees to say nothing of their related workers and the marginal workers like the handicapped, the

old or the inexperienced. All these are now under special stress in changing their work.

To help serve some of these millions, a specially prepared manual is being used in the consulting room and classes as collateral reading for counselees. It translates psychological principles and techniques into the vernacular and describes in detail how various types of puzzled persons attempt their vocational readjustment—failures as well as successes. A major function of the manual is to save consulting time for the counselor.

Standardized tests are used as aids in the exploratory and interpretative interviews. A written summary of tentative conclusions and next steps is drawn up. Specific referrals are usually included in the service and provision made for progress reports.

The techniques of the manual and its application have been developed and tested over a period of fifteen years of consulting service with specific adaptations since V-J Day.

Saturday Morning, June 29

Session III-A: SAMPLING AND STATISTICAL TECHNIQUES

R. H. GUNDLACH, *Chairman*

Comparison of Controlled and Non-Controlled Characteristics of Two Samples of the Same Population.

RALPH GRANNEBERG, University of Washington (introduced by Ralph H. Gundlach).

Controversy concerning the validity of public opinion surveys has raised the issue of the relative merits of two sampling procedures now in common use. This study approaches the problem by simultaneously measuring the opinions of a population by the area and the quota-control sampling methods.

Twenty-five interviewers were used on each sample and were equated as to age, sex, education and general socio-economic background. Each sample was composed of one hundred cases.

The experimental variable was the degree of discretion which the interviewer was allowed to exercise in his choice of respondents. Demographic and attitudinal characteristics of the samples are compared.

Probability Discrimination and the Gambler's Fallacy in Guessing. MURRAY E. JARVIK, University of California (introduced by Egon Brunswik).

In a series of ninety presentations two arbitrarily chosen words were alternated in an artificial random sequence, with an overall frequency ratio of 6:4 maintained within each segment of ten presentations. Twenty-one college students had to guess, before each new presentation, which of the two alternatives would be next. There was a markedly more frequent anticipation of the "dominant" alternative, suggesting that under the conditions chosen a "probability" of 60% is above threshold. Analogous experiment with ratios of 70% and 75% and with different subjects showed this—apparently at least in part implicit—learning effect to be somewhat in proportion to the frequency ratios involved.

Superimposed upon, and occasionally even overshadowing, this positive response, serial accumulation of the dominant alternatives leads, as often in gambling, to anticipation of the opposite alternative.

A Factorial Approach to Psychophysiological Relationships. M. A. WENGER, University of California at Los Angeles.

It is argued that significant psychophysiological relationships exist but experimental results have been unimpressive because the covariance of discrete physiological and psychological variables usually is slight. If factors involved in their total variances can be isolated, then significant relationships may be discovered.

In an attempt to measure physiological factors, one which appears to represent autonomic nervous system function has been obtained in five separate studies. One study also provided data for the thirteen personality factors of the Guilford and Guilford-Martin inventories. Data are presented showing the relationships of the autonomic factor and its component test to the thirteen personality factors. Although few of the discrete physiological variables are significantly related to the personality factors, five of these factors bear statistically significant relationships to the autonomic factor.

Normal Approximations to the Chi Square Distribution. F. F. JARRETT, University of California.

R. A. Fisher has suggested a transformation to a normal variate as an approximation to the distribution of Chi Square for the case of large n . E. B.

Wilson and M. M. Hilferty have suggested several other such transformations. It is of interest to discover the precision with which these transformations permit the estimation of chi square probabilities even for small values of n . Comparison of these estimates with the exact probabilities for various values of n and χ^2 reveals one of the transformations of Wilson and Hilferty $[(\chi^2/n)^{1/3}]$ is normally distributed about a mean of $(1-2/9n)$ with a standard deviation equal to $\sqrt{2/9n}$ yields probabilities differing from the exact values only in the third place of decimals over the entire range of values of n . Fisher's simpler transformation may be in error in the second place of decimals for small values of n . Attention is also called to the exact normal transformation of Chi Square for the single degree of freedom.

Predicting the Box Office Returns of Motion Pictures.

FLOYD L. RUCH, University of Southern California.

Entertainment values offered by motion pictures were determined by asking a cross section of the public what it wanted to know about a picture before deciding to see it.

Cards bearing indications of these values were shown to a cross section of movie-goers who were asked to state the degree of their desire to see the picture in question.

Responses were weighted using as a criterion a series of nine feature pictures for which the box office was known.

When the same technique was applied to two new series of ten pictures each, their predicted rank order of popularity agreed closely with actual box office figures subsequently released. No two pictures were incorrectly ranked relative to each other when the difference in actual sales was ten per cent or greater.

The Place of Factor Analysis in Test Experimentation.

LLOYD G. HUMPHREYS, University of Washington.

Factor analysis is in disrepute among experimental psychologists for two reasons: it has been loosely used, and experimental psychologists apparently do not understand its legitimate use. Using estimates of communality as diagonal entries, taking out an uncertain number of factors, and rotating original mathematical loadings results in values for which

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standard errors cannot be obtained. It is thus impossible to "discover" anything by the factor analysis technique alone. Factor analysis is useful, however, in setting up hypotheses concerning tests. As an aid in hypothesis formation, the subjective elements in the technique do not constitute a serious liability. One is thankful, on the contrary, for the degree of objectivity possible. Since hypotheses have to be checked, the experiment utilizing factor analysis must end in a critical ratio. This ratio can be obtained by comparing the correlations of an experimental test with standard tests selected as factor measures.

New Standards in Test Evaluation. J. P. GUILFORD, University of Southern California.

Extensive experience with test development in the Army Air Forces and other considerations lead to the conclusion that drastic revisions are needed in current practices in evaluating tests. A relativistic point of view should replace a prevailing absolutistic one, with respect to standards for both reliability and validity. Both factorial and practical validity take increasing precedence over reliability as an objective in test development, when these two objectives are in opposition to reliability. It is proposed that a most meaningful, rational, and practical approach to test evaluation as well as to test development is to be found in factor-analysis theory and practice.

Locating and Describing Socially-Homogeneous Community Areas. ROBERT C. TRYON, University of California.

The role of the local community or neighborhood in determining the social attitudes and actions of its members is emphasized. The local community is in one sense considered to be a more primary group than the family: it not only has its own direct influences on the developing social personality, but the family itself mediates the social values and ways of the local community.

The first problem in examining the social role of the local community is to locate and describe objectively the various types of socially-homogeneous community areas. The Bay Area is chosen for study. Each neighborhood (census tract) is described by thirty-four similarly-scaled population, work, and home characteristics. The interrelations

between all the neighborhoods are examined by a modified form of cluster analysis. Preliminary findings on different types of socially-homogeneous areas are presented.

Session III-B: DEVELOPMENTAL PROBLEMS

LOVISA WAGONER, *Chairman*

Ratings of Intelligence and Personality from Handwriting. PIETRO CASTELNUOVO-TEDESCO, University of California (introduced by Egon Brunswik).

Handwritings copying the same passage, obtained from one hundred men and women, with normally distributed IQ's ranging from 68 to 132, were rated by six college men and women. The contingency coefficient from ratings of intelligence on a five-point scale was .60. Sex was judged correctly in 66% of the cases, confirming findings of previous authors.

The judges also rated a partially different set of 104 similarly obtained handwritings, IQ's from 105 to 132, on five-point scales for Anxiety and Compulsiveness. Contingency coefficients with corresponding scores from the Multiple Choice Rorschach Test were, respectively, .33 and .27.

After the judges had received training in graphological methods, coefficients showed the slightly higher values of .64 for Intelligence, .41 for Anxiety, and .32 for Compulsiveness. Sex was now judged correctly in 71% of the cases.

Measurable Dimensions of Personality in Kindergarten Children. LEONA E. TYLER, University of Oregon.

This is the first step in a longitudinal study of the origins and development of the differentiation of personality which can be identified in adults by means of such tests as the Strong Vocational Interest Blank. The present study was for the purpose of determining what traits can be differentiated and quantified in kindergarten children. Data on thirty-two children were assembled from time-sampling observations of free play, tests, interviews with children, interviews with parents, ratings, and physical measurement. Correlations between scores on twenty-three variables were analyzed by Tryon's cluster analysis method. Major factors appear to be: (1) general personal

effectiveness, (2) intellectual maturity, (3) physical growth, (4) absorption in immediate situation. Several isolated variables could not be identified with any of the groups. No striking relationships to home conditions such as presence or absence of siblings, economic level, and methods of discipline were observed.

Motor Performance and Physiological Maturing.

HAROLD E. JONES, University of California.

Age changes in physical abilities during adolescence were analyzed, for boys and girls, in relation to a number of measures of maturing, including skeletal age, maximum growth age in height, and sexual maturing.

Sex differences in the growth of strength were shown in the effects of early and late maturing, in that early maturing in girls was accompanied by an early arrest of growth, with a terminal status inferior to the group average. Early maturing boys, on the other hand, were superior in strength at all ages through adolescence. The physical and motor differences of the early and late maturing boys, most marked at the age of about fifteen years, were significantly related to their status in the peer culture, and to assessments of individual adjustment.

The Assessment of Somatic Androgyny. NANCY BAYLEY and LEONA M. BAYER, Institute of Child Welfare, University of California.

A rating scale has been devised for assessing somatic androgyny in almost mature boys and girls. Standards are presented by body photographs; descriptions; a rating chart for constructing individual profiles. Subjects are rated according to degree and direction of sexual differentiation. Agreement between independent raters showed the scale to be reliable. Scores fall into a bi-modal continuum with small amounts of overlapping of sexes. Cases with intermediate scores may be either undifferentiated (asexual), or show characteristics of the opposite sex (bisexual).

Androgyny appears to be truly a "mosaic" (Draper). Valid sex differences, having little or no overlap between masculine and feminine scores, are often independent of each other within a sex. Many individuals may deviate in a few characteristics; few will deviate in many.

With standards for assessing somatic androgyny

it should be possible to determine its relation to personality structure.

The Handwriting Problems of Left-Handed Children.

LUELLA COLE, Berkeley.

Most left-handed children are brought up in a right-handed system of penmanship, which may or may not be modified to some extent by individual teachers. Use of materials and methods intended for right-handed children forces several problems upon the sinistral. This "paper" would consist primarily of a demonstration to show: (1) the nature of the left-handed child's difficulties, (2) his most frequent solutions, (3) the inadequacies of these solutions, and (4) a better method of procedure.

Studies of Social Discrimination in Children. ELSE

FRENKEL-BRUNSWIK, Institute of Child Welfare, University of California.

Scales designed to measure explicit ethnic prejudice in children were given to 250 sixth to eighth grade pupils. On an adaptation of the Reputation Test emphasizing the sociometric structure of the classroom and testing mechanisms of projection, those with high prejudice-scores tended to be less popular and less often mentioned as best friends, more talkative and attention-getting, less conforming to adult values, more minding of being bosses, less "different", more frustrated and complaining, less trustworthy, less helpful. On an attitude questionnaire, they tended to be more authoritarian and full of boy-gang spirit, more pseudo-tough, anti-feminist, superstitious, of greater paranoid projectivity, social mobility, cynicism, intolerance of ambiguity. Case material on interviews stressing political and ideological conceptions along with clinical information, and on stories to pictures representing friendly and aggressive ethnic relationships will also be presented.

Mental Age Changes in Hypnotic Age Regression.

THEODORE R. SARBIN, Los Angeles.

In order to throw further light on the question as to the validity of hypnotic age regression, adult subjects on whom childhood Stanford-Binet records were available were invited to participate in this study. Twelve subjects (college students) completed the series of tests which constituted the ex-

periment. Nine of the subjects were hypnotizable to some degree. Under hypnosis, instructions were given to regress to the age of the original S-B test (age 8 or 9). The S-B test was then administered according to standard procedure by a trained psychometrist (not the hypnotist except in two cases). All twelve subjects were instructed in the waking state to simulate the behavior of an eight (or nine) year old child. S-B tests were again administered.

Comparisons are reported for M.A.'s on original tests with M.A.'s on tests performed under hypnotic regression, and with M.A.'s on tests performed under simulated regression in the waking state. A positive correlation is reported between a derived age-regression index and the depth of hypnosis as determined by the Friedlander-Sarbin scale.

Saturday Afternoon, June 29

Session IV: GENERAL AND SYSTEMATIC

HAROLD E. JONES, *Chairman*

Freud as Hypnotist. SIEGFRIED BERNFELD, San Francisco (no abstract).

The Law of Effect in Learning. A. R. GILLILAND, Northwestern University.

Thorndike's law of effect has been a controversial topic. Watson believed it unnecessary. Tolman substituted intensity. Thorndike later affirmed strengthening by satisfiers but questioned weakening by annoyers.

In an earlier experiment the writer forced rats to enter each alley of a double T maze five times and rewarded them with food in one. In free-choice runs thereafter rats generally entered reward alley. Satisfiers strengthen bonds.

The present experiment was similar except rats were shocked instead of rewarded in one alley. In later free-choice runs without shock rats avoided shock alley. Annoyers weaken bonds.

When there are only two alternative responses punishment either inhibits one or is equivalent to reward for other. When there are several possible responses punishment tends to inhibit one and/or produce some other response.

An Experimental Test of the Fechner Formula. KNIGHT DUNLAP, University of Southern California at Los Angeles (no abstract).

Four Types of Experiment. EGON BRUNSWIK, University of California.

Operationally mirroring schools through their methodological policies, classical psychophysics (Structuralism), Gestaltpsychology, and recent forms of Functionalism are exemplified by perception experiments dealing with Galton-bar, Muller-Lyer illusion, size-constancy (representing the functionalistic climax of European-Academic tradition), and social perception (for American-Applied functionalism).

Analyzed as to design, the "classical" experiment emerges as a "systematic" technique of autocratically induced inseparable clusterings of "tied" (rather than truly isolated) independent variables; whereas the "modern" experiment is "representative" as to variation and covariation of geographic stimuli, thus adopting "statistical" features heretofore clearly acknowledged only in "testing" (with individual dispositions as the analogues of the independent variables). The Gestalt approach becomes multidimensional merely concerning dynamic field interferences; functionalistic experiments, however, are "crucial" in checking stabilization of relationships with the distal environment—physical or social—thus concentrating upon the more positive adjustment aspects of interaction (or compromise) of stimulus factors.

Can an Eclectic in Learning Theory be Systematic?

ERNEST R. HILGARD, Stanford University.

To those who like to think systematically, eclecticism connotes weakness, wish-washiness, and dilletantism. A strong case can be made for the systematist, because the consistent approach provides both motivation and direction to experimentation. Many good learning experiments would never have been done except for somebody's theory. This very characteristic of systems, that they order data consistently and hence work along chosen lines, makes the use of systematic data by the eclectic difficult. A defensible eclecticism is described as one which conforms to three principles: (1) beliefs are rooted in experimental evidence; (2) borrowing from systematists is done with full knowledge of the implications, and relationships are not 'borrowed' out of their contexts; (3) within the more limited set of relationships with which he deals at

any one time, the eclectic must be just as systematic as the general theorist.

PANEL DISCUSSIONS

Friday Afternoon, June 28

H. R. TAYLOR, *Chairman*

Problems of Veterans' Guidance. Participants: LLOYD H. HUMPHREYS, University of Washington; NEIL D. WARREN, University of Southern California; DAN L. ADLER, University of Oregon; HENRY C. LINDREN, Veterans Administration, San Francisco.

Saturday Afternoon, June 29

FLOYD L. RUCH, *Chairman*

War-Stimulated Trends in Psychology. Participants: J. P. GUILFORD, University of Southern California; LEONA TYLER, University of Oregon; DONALD W. MACKINNON, Bryn Mawr.

PROGRAM OF FILMS

DONALD W. TAYLOR, *Chairman*

The following films were shown both days of the meeting:

Let There Be Light, 40 minutes, sound
Introduction to Combat Fatigue, 30 minutes, sound
The Neuropsychiatric Patient, 30 minutes, sound
Don't Be a Sucker, 25 minutes, sound
Irritability, 30 minutes, sound
Night Vision, 6 minutes, sound
Diary of a Sergeant, 25 minutes, sound
Swinging Into Step, 35 minutes, sound
I Want to Be a Secretary, 15 minutes, sound
Dynamics of Behavior and Experimental Neuroses, 30 minutes, silent
Adaptive Behavior of Golden-Mantled Ground Squirrels, 15 minutes, silent
Discipline: Giving Orders and Reprimanding, 30 minutes, sound

PROCEEDINGS OF THE EIGHTEENTH ANNUAL MEETING OF THE MIDWESTERN PSYCHO- LOGICAL ASSOCIATION

DAEL WOLFLE, Secretary-Treasurer

Washington, D. C.

THE Midwest Psychological Association held its eighteenth annual meeting in St. Louis, March 28, 29, and 30, 1946, in conjunction with Section I of the American Association for the Advancement of Science. This meeting was the first since 1942. The program was arranged by a joint committee of Section I and the MPA consisting of Harold E. Burtt, Florence L. Goodenough, Charles Bird, and Sidney L. Pressey. Local details were arranged by the American Association for the Advancement of Science and by a committee of which John P. Nafe was chairman.

The program included six sessions for the reading of 43 papers, two sessions each on Thursday and Saturday mornings and one each on Friday morning and afternoon. On Friday a number of the members attended the sessions of the Society for Research in Child Development. On Saturday afternoon a symposium arranged by Karl F. Lashley and presented by the American Society of Naturalists was attended by many of the members.

On Thursday afternoon Section I and the MPA were joined by Section Q (Education) of the AAAS for a program consisting of the addresses of the retiring president of the Midwest Association and the retiring vice-presidents of Sections I and Q. The three addresses were: Sidney L. Pressey, retiring president of the MPA, "Acceleration: Disgrace or Challenge"; Florence L. Goodenough, retiring vice-president of Section I, "Semantic Choice and Personality Structure"; and H. H. Remmers, retiring vice-president of Section Q, "You Can Change Human Nature." Robert H. Seashore, past president of the MPA, presided.

The following 42 persons were elected to membership:

Baker, Corrine
Baxter, Brent
Berg, Esta

Bice, Raymond C.
Boyer, Merle W.
Carrington, Dorothy H.

Couch, Paul E.
DeBarr, Jeanne
Dewey, Charles S.
Dillinger, Claude W.
French, Robert L.
Gage, Nathaniel L.
Greene, Ronald R.
Hall, William E.
Halstead, Aline
Hunt, William A.
Hyde, Alice
Jones, F. Nowell
Jones, Margaret H.
Kratwohl, William C.
Lemmon, William B.
Lipman, Eli
Magaret, Ann
Marquis, Donald G.
Marquis, Dorothy P.
Moss, Eileen
Nance, R. Dale
Norris, Eugenia
Nowlis, Vincent
Perkins, Charles C.
Pritchard, Elinor
Rabsen, Grace
Rothe, Harold F.
Schneider Dorothy
Sears, Pauline S.
Sears, Robert R.
Sherman, Arthur W. Jr.
Shurrager, Phil S.
Smith, Karl U.
Weider, Arthur
Wilson, Jean
Wright, Herbert F.

New officers elected were: President, Dael Wolfe, Washington, D. C. (1946-1947); Secretary-Treasurer, Claude E. Buxton, Northwestern University (1946-1949); Member of Executive Council, Fred McKinney, University of Missouri (1946-1949).

The Association will hold its 1947 meeting May 2 and 3 at the Edgewater Beach Hotel in Chicago.

TREASURER'S REPORT

October 1, 1942 to April 1, 1946

RECEIPTS

Balance on hand October 1, 1942	\$366.84
Dues from members	17.00
Interest Jan. 1, 1943	1.80
Interest July 1, 1943 to Jan. 1, 1946	5.48

Total receipts. \$391.12

DISBURSEMENTS

Printing	\$128.03
Yearbook	\$58.46
Envelopes, letterheads, announcements, etc.	68.75
Addressograph plates	.82

Postage and Express.....	21.55
Clerical assistance, typing, etc.....	24.25
Miscellaneous.....	17.69
Correction of error in report of...	
Oct. 1, 1941 to Oct. 1, 1942.....	8.50
Telegrams.....	4.93
Office supplies.....	4.26
Total disbursements.....	191.52
Balance on hand April 1, 1946.....	\$199.60

PROGRAM

Thursday, March 29, 9:30 A.M.

Section A. SIDNEY L. PRESSEY, Chairman

The effect of stimulus generalization on the occurrence of generalized versus specific responses. DELOS D. WICKENS, University of Wisconsin.

Tests for generalized conditioned finger retraction responses were conducted. One group was tested to the same tone as employed in the conditioning; the other to a generalized tone. Slight evidence existed (p between .10 and .05) that specific responses occurred more frequently in the same than in the generalized tone group.

The rate of forgetting. A. R. GILLILAND, Northwestern University.

Using interesting material presented visually, only about 25 per cent was forgotten in 48 hours. Confidence was lost more rapidly than the facts upon which it was based. Many factors determine the rate of forgetting but the typical rate seemingly is much slower than most studies have shown.

The influence of complexity of stimuli upon the formation and retention of concepts. HOMER B. REED, Ft. Hays Kansas State College.

As the complexity of verbal stimuli is increased, the amount of effort to extract concepts is proportionately increased, the number of correct concepts is greatly decreased, the number of incorrect concepts is greatly increased, the rate of forgetting of concepts is increased, and the method of learning shifts from logical to illogical.

Retroactive inhibition or facilitation from interpolated learning as a function of the length of the time interval. M. E. BUNCH, Washington University.

A further experimental study of the limiting

conditions of retroaction between interpolated learning. The variable was the length of time between the original and the interpolated learning. Retroactive inhibition occurred when the time interval was short, but there was marked facilitation in relearning when the interval was relatively long.

Some relationships between reminiscence and catharsis. J. H. ROHRER and C. A. RAYHILL, University of Oklahoma.

A reminiscence producing rote learning situation were used with three groups. During a five minute rest interval preceding recall three types of activity were interpolated, i. e., joke reading, discussing their frustrating learning experiences, discussing topics other than their frustrating experiences. Analysis of recall scores showed differences in favor of group three.

The effect of negative incentives in serial learning: II. Response variability and incentive intensity. G. RAYMOND STONE, Indiana University.

Four conditions of negative incentive intensity were applied to a unit of a serial verbal task. Results were analyzed to show spread of the negative effect to adjoining rewarded responses. A reversal of the variability effect from the pre- to post-punishment series was noted under conditions of light punishment.

The effects of systematic variation of the intensity of an auditory CS upon the elaboration of conditioned running responses of guinea pigs. W. J. BROGDEN, University of Wisconsin.

Responses to shock of guinea pigs were conditioned to a 250 cycle tone by avoidance training in a rotor cage. Intensity of the CS was constant for the control group but was varied systematically for the experimental group. The experimental group required reliably more trials to reach the conditioning criterion.

Discrimination learning without primary reinforcement in the rhesus monkey. EILEEN MOSS, University of Wisconsin.

Five rhesus monkeys were trained on a series of 15 discriminations under three conditions of reward: two trials of paired stimuli, of positive stimulus

alone, and of negative stimulus alone. Training was followed by 11 paired-stimulus test trials. Learning to the negative stimulus alone was significantly better than to the positive stimulus alone.

Thursday, March 29, 9:30 A.M.

Section B. FLORENCE L. GOODENOUGH, Chairman

Comparison of life history and contemporary activities of students with emotional problems and unselected students. FRED MCKINNEY, University of Missouri.

Comparison of histories of 208 unselected with 210 maladjusted students revealed significant differences favoring unselected students. Some responses lacking in maladjusted histories but found characteristically of the unselected were: numerous friends, frequent dates, school honors, organized study methods, above-average financial background, gregarious childhood, irregular church attendance, judge selves confident, calm and cooperative.

Investigation of the meaning and expression of the movement responses to the Rorschach Ink Blot Test in 216 juvenile delinquents. ELIZABETH B. WOLF, Bureau of Juvenile Research, Columbus, Ohio.

An individual determinant of the Rorschach Ink Blot Test, M, was isolated and its meaning for a group of 216 juvenile delinquents studied by comparing those giving none, few and much of this determinant on a variety of characteristics. This method proved a way of getting more functional interpretations of what a certain factor means in a specific group, of how the activities it connotes are expressed in personality characteristics and behavior.

A technique for controlling variables. CLARENCE LEUBA, Antioch College.

Two illustrations are given of the experimental use of hypnosis for controlling variables: (1) to show the effects of certain definite experimentally created attitudes on observation and memory; and (2) to show how sensations, perceptions, and feelings may readily become conditioned to external stimuli when distracting factors are rigorously excluded by means of hypnosis.

Factors in homicides committed by 200 males. IRWIN

A. BERG and VERNON FOX, University of Illinois.

Murderers were found to be older, lower in I.Q., and grade placement than other prison inmates. Ego was involved in murder of 83 per cent of female victims, but in only 36 per cent of the male victims. 79 per cent of the females and 51 per cent of the males were slain in a violent manner. Males who slew females were significantly older than males who slew other males.

Psychological changes in patients receiving electric shock therapy. JOSEPH ZUBIN, New York State Psychiatric Institute and Hospital and Columbia University.

Learning, and retention measured through recall and relearning, are adversely affected by electric shock therapy. Recognition suffers only in so far as a "jamais vu" phenomenon is observed. Retention is present for materials learned on shock days. Intelligence also declines during the treatment period and measurable personality changes are reported.

Personality changes occurring in normal young men maintained on restricted intakes of vitamins of the B-complex. HAROLD GUETZKOW, JOSEF BROZEK, and ANCEL KEYS, University of Minnesota.

Eight normal young men were maintained for 161 days on a partially restricted intake of B-complex vitamins, followed by 23 days of acute deficiency. There was little evidence of personality change during the partial restriction, but significant changes occurred during the acute deficiency. Thiamine supplementation alone produced rapid recovery.

Father-fantasies, father-typing and identification in father-separated children. GEORGE R. BACH, Kent State University, Ohio.

Using a standardized play technique, the father fantasies of children living under usual family group conditions were compared with fantasies of children separated from their fathers by military service. Neurotic and problem-home children were also studied. The data were analysed to clarify some theoretical and clinical questions concerning father-identifications.

Friday, March 29, 9:00 A.M.

DAEL WOLFLE, Chairman

Abnormal fixations. NORMAN R. F. MAIER, University of Michigan.

Abnormal fixations are matched with habits and can be shown to differ qualitatively from them. To explain the difference it is necessary to postulate that responses formed under conditions of motivation are mediated by different behavior mechanisms than those developed under conditions of frustration. Evidence and theoretical implications are presented.

Factors other than auditory related to performance on speech perception tests. LOUIS D. GOODFELLOW, Northwestern University, and Trimm Radio Manufacturing Co.

Determinations of minimum visible angle at high brightness. CONRAD G. MUELLER, Camp Lejeune, N. C.

Measurements of the minimum visible angle for the human eye were made by determining thresholds for thin lines and small squares. Observations by a small group of subjects were made at high brightness levels, using the sky as a background. The data are analyzed in terms of the diffraction characteristics and retinal structure of the eye.

Observations on the sea approach behavior of the loggerhead turtle (caretta caretta). ROBERT S. DANIEL, University of Missouri, and KARL U. SMITH, University of Wisconsin.

Observations were made to determine the stimulus clue by which the neonate loggerhead turtle so efficiently orients and approaches the ocean after emerging from the nest. A positive phototropism was found, which appears adequate to explain the significant clue, since the white surf is usually the brightest visible area.

The effect of the difficulty of a response upon its rate of emission. B. F. SKINNER, Indiana University.

In experiments with pigeons, the rate of responding under periodic reinforcement was examined during changes in the time and energy requirements of the response. The effect was found to resemble that of changing the level of drive. Records obtained under different degrees of 'difficulty', so

defined, may be equated with a multiplicative constant.

Palatability, bodily need, and habit as factors regulating the selection of food. PAUL THOMAS YOUNG, University of Illinois.

Contrary to the traditional stomach-contraction theory of hunger motivation, experimental findings stress effects from stimulation of the head receptors (palatability) in sustaining behavior and in habit formation. Food habits tend to form in agreement with bodily needs but, once formed, tend to persist as independent factors in behavior.

Dark adaptation as a factor in the sensitization of the beta response of the eyelid to light. EUGENIA B. NORRIS and DAVID A. GRANT, University of Wisconsin.

Eyelid responses to light were recorded before and after a dark adaptation and a non-adaptation procedure. It was found that the dark adaptation procedure significantly increased the frequency and the magnitude of long latency responses of the eyelid to light, although it did not significantly affect the frequency or magnitude of alpha responses

Friday, March 29, 2:00 P.M.

HERBERT WOODROW, Chairman

Factor analysis of attitudes toward community problems. GORDON V. ANDERSON, Northwestern University.

Responses to public opinion poll questions administered to two contrasting populations, unemployed persons and business executives and professional men, yielded several meaningful factors when studied by use of the centroid method of factor analysis. Specificity appears considerable. Generalizations made for one population do not appear valid for the other.

Attitude inter-relationships of youth, their parents and their teachers. H. H. REMMERS, Purdue University, and NAOMI WELTMAN, Group Vocational Guidance Service, Philadelphia.

The contribution of training in the psychological-analytical approach to human behavior to the problem of cooperation among peoples and nations. RALPH H. OJEMANN, University of Iowa.

Data will be presented to show how conflicts in groups well acquainted on the overt level are significantly reduced when members are trained to understand one another more fundamentally. Data will also be presented to show that attitudes toward others can be most effectively modified through training in the psychological-analytical approach to behavior. These findings have important implications.

Optimum ages for eminent leadership: Then and now. HARVEY C. LEHMAN, Ohio University.

The present study reveals that certain types of present-day leaders—legislative, judicial, diplomatic, military, naval, religious, and educational—are definitely older than were their predecessors who held the same nominal positions. In most instances these leaders also exhibit less age variability today than formerly. No single causative factor is discernible.

Attitudes toward conscientious objectors in white and Negro southern college women. F. NOWELL JONES (aided by DOROTHY M. GROESBECK), University of Wisconsin.

Questionnaires concerning attitudes toward conscientious objectors administered to southern white and Negro sophomore college women gave the following results: (1) the two groups did not differ significantly in attitude toward the "religious" CO; (2) the Negroes were significantly more tolerant of the "intellectual" CO's than were the whites.

A guidance program in county schools. GILBERT J. RICH, Milwaukee County Guidance Clinic.

Saturday, March 30, 9:00 A.M.

Section A. WILLIAM A. HUNT, Chairman

Significance of the electroencephalogram in ideation and emotion. CHESTER W. DARROW, JULIAN H. PATHMAN, and WARREN W. MORSE, Institute for Juvenile Research, Chicago.

Opposition between fast activity in the outer layers of the cortex and $10 \pm$ per second driving of that activity by thalamic (and hypothalamic) subcortical centers is paralleled by vasodilator vs. vasoconstrictor influence which regulates cerebral blood supply. Autonomic and electroencephalographic changes during ideation, emotion, over-

ventilation, drugs, and change of posture become understandable when interpreted as psychophysiological regulations of cerebral function.

Performance of normal monkeys and monkeys following bilateral prefrontal lobectomy on a series of object-quality and positional discrimination and discrimination reversal problems. H. F. HARLOW, University of Wisconsin.

Five normal and five bilateral prefrontal monkeys were tested on a series of object-quality and positional discriminations and discrimination reversals. The normal monkeys were consistently superior to the operated animals, the differences were significant, and there was no overlapping between members of the two groups.

Coordinated responses in the chronic spinal dog. W. N. KELLOGG and JAMES DEESE, Indiana University.

Integrated behavior in certain gross movements like standing, defecation and micturition, can apparently exist in the spinal dog between the bodily segments on either side of the transection. If not an artifact, this coordination may result from mechanical pulling of the tissues, or from nerve tracts which circumvent the lesion.

Action potential measurements from the arms during reaction time to visual stimuli. WILLIAM A. LIVINGSTON, Indiana University.

Evidence has been reported by other authors both for and against the existence of changes in magnitude of action potentials during the warning-stimulus interval. This paper reports investigation of action potential changes in the interval between the ready signal and the stimulus presentation under the conditions of simple and choice reaction time to light. Work is a contribution to the physiological psychology of simple and complex set.

New statistical criteria for experiments involving repeated trials. DAVID A. GRANT, University of Wisconsin.

Experiments involving the subject's response to a sequence of stimulus situations containing specified common elements (e. g., discrimination experiments) are traditionally analyzed in terms of arbitrary or percentage "correct" criteria. New

statistical test in terms of "runs," grouping, and sequential analysis are described, and practical examples are given.

The maintenance in vivo of the spinal animal. JAMES DEESE and W. N. KELLOGG, Indiana University.

An apparatus is described for supporting the spinal animal by means of a canvas hammock and a metal pin through the tail. The preparation can be maintained indefinitely in a healthy and active state in this device, without many of the laboratory difficulties which militate against survival.

Autonomic and electroencephalographic effects of benzedrine. JULIAN A. PATHMAN, CHESTER W. DARROW, and WARREN W. MORSE, Institute for Juvenile Research, Chicago.

Improved alpha rhythm 10-20 minutes after small doses of benzedrine is related to sympathomimetic cerebral vasoconstrictor action combined with improvement of cerebral metabolism. Exaggerated high potential slow waves during deep breathing tests after benzedrine are attributed to combination of the two influences on brain. Implications for understanding of brain waves are outlined.

A laboratory animal suitable for the experimental study of aphasia: the rhesus monkey. BENJAMIN WEINSTEIN, Camp Lee, Virginia.

The neuro-psychological mechanisms involved in aphasic disorders associated with brain injuries have become an important clinical problem in military and veterans' hospitals. The possibilities of supplementing clinical knowledge of aphasia by means of a program of neuro-psychological research with rhesus monkeys are indicated.

Saturday, March 30, 9:00 A.M.

Section B. MARTIN L. REYMERT, Chairman

The influence of emotional tension on the intelligence test scores of children. J. LEWIS YAGER, Mooseheart Laboratory for Child Research.

Forty boys, aged 10-12, were tested under normal conditions and under emotional tension induced by a threat to their integrity and evidenced by physiological changes. There were thirty gains and ten

losses in score on the Otis test under emotional tension. These changes were positively related to emotional stability.

The validation of the Gilliland-Shotwell Infant Intelligence Scale. MARY D. DRUMMOND and A. R. GILLILAND, Northwestern University.

This scale, consisting of three tests of nineteen items each for age levels four, eight and twelve weeks, is in process of validation by three methods: (1) The age-grade method; results show progress from week to week. (2) Administration of scale to feeble-minded children; results in scores comparable to normal four- to twelve-week infants. (3) Correlating infant scale scores with Cattell and Binet scores taken at pre-school levels. This method now in progress.

Validity of a short form of the Wechsler-Bellevue on four psychiatric groups. BERTRAM COHEN, Michael Reese Hospital, Chicago.

A study of the clinical and statistical efficacy of a short form of the Wechsler-Bellevue Adult Intelligence Scale as applied to four groups of psychiatric patients.

The effect of rest periods on the learning of a simple motor task. GEORGE S. SPEER, Illinois Institute of Technology.

The Minnesota Test of Manual Dexterity (Turning) was administered to two groups of college students under both rest and no-rest conditions. The learning curves of the two groups are compared and the results are considered in relation to both learning theory and the use of the test for vocational guidance.

Analysis of a highly generalized response pattern.

DONALD M. JOHNSON, University of Illinois.

The attractiveness of any number in a sequence, such as a five-point rating scale, can be treated as the sum of the attractiveness of that number by itself and whatever additional attractiveness spreads from neighboring numbers. Thus relative frequency of choice of any number can be predicted. For a three-point scale these frequencies are: .306, .389, and .306. Experiment partially confirms the predictions.

Differential test responses of normal and mentally defective subjects: Some theoretical considerations.

CLARE WRIGHT, Sonoma State Home, and ANN MAGARET, University of Wisconsin.

Successes and failures on 73 items of the 1937 Stanford-Binet Scale, Form L, achieved by 441 mentally defective and 1326 control subjects, equated for mental age, were studied. As compared with the easy items, those items more difficult for the mentally defective subjects were found to have significantly heavier first factor loadings.

Changes in the mental ability of students attending high school, 1916 to 1942. F. H. FINCH, University of Illinois.

Mental test scores of students recently attending high schools were compared with scores of students previously in attendance when enrollments were smaller. It was found that larger enrollments of more recent years brought no decline in the ability of students. Instead, some evidence of increasing ability was noted.

PROCEEDINGS OF THE SEVENTEENTH ANNUAL MEETING OF THE EASTERN PSYCHOLOGICAL ASSOCIATION

THEODORA M. ABEL, Secretary
Letchworth Village, Thiells, New York

THE seventeenth annual meeting of the Eastern Psychological Association was held at Fordham University, Bronx, New York, April 26 and 27, 1946. Dorothea McCarthy acted as local chairman on arrangements. Other members of the local committee were Robert T. Rock and Joseph G. Keegan, S.J. Attendance at the meeting was 876; 344 members, 485 guests, and 47 applicants for membership.

The program the first day consisted of forty-six fifteen-minute papers, one film, a round table of five papers, and the presidential address. One-third of the scientific papers was devoted to sensory and perceptual problems, learning and conditioning, and animal behavior. Two-thirds of the program was made up of papers emphasizing social and abnormal aspects of human behavior, and clinical procedures and applications. The one film shown was a demonstration of a case of visual agnosia. The round table was organized by the Rorschach Institute which each year has its annual scientific program in cooperation with the meeting of the Eastern Psychological Association. The topic of the session was that of projective techniques applied to a great variety of subjects including the Nazi war criminals and successful artists.

The presidential address was delivered in the first floor auditorium of Keating Hall on Friday afternoon. Before the address was given, Robert T. Rock of Fordham University read a message of greeting to the Association from Robert I. Gannon, S.J., president of Fordham University. Robert S. Woodworth of Columbia University introduced Edwin G. Boring of Harvard University, president of the Association, who spoke on the topic of *Mind and Mechanism*. In order to understand the mind of man, Dr. Boring suggested that the psychologist first gain an understanding of the mind of the robot, which is easier, because the robot is simpler than man and because, since the robot is designed by man

himself, he is sure to know all of the robot's properties. The main task of Dr. Boring's paper was to make an inventory of the psychological functions to see with which of these the robot should be endowed in order to make a man of him. In his concluding remarks Dr. Boring stated that probably man could build an electronic box that would not be distinguished on the outside from a professor of psychology. But this robot would not solve the problem of how the professor's brain works, it would only reveal what the professor could do. Knowing this, however, is the first aim of scientific psychology.

The second day of the meetings was devoted to panel discussions with invited speakers from applied fields and university staffs participating. The morning session consisted of a discussion of the development of occupational fields for psychologists. There were a moderator and six discussants, one each from the fields of government, public opinion, industry, advertising, radio, and clinics. In the afternoon panel, the question of the universities' program for graduate professional training was reviewed by five participants representing various universities along the Eastern seaboard, and a moderator. Opinions differ as to the type of training needed for psychology graduates wishing to enter professional fields just as opinions differ as to how the youth of the land shall be educated, by basic general courses or through specialized applied ones. There was some weighting in favor of the point of view that what was good enough for Wundt was not good enough for the 1946 graduate student, and a great deal of emphasis was laid on giving the graduate student more opportunities for interning in the applied field. But still basic studies in physics, chemistry, mathematics and biology were given prominent roles in the curriculum.

Elections and appointments: Officers were elected to serve as follows: *President*, 1946-47, Anne Anastasi, Queens College; *Secretary*, 1946-49, J.

McV. Hunt, Brown University; *Directors*, 1946-49, Hadley Cantril, Princeton University, Daniel Katz, Brooklyn College; 1946-47, Harold Schlosberg, Brown University, to fill the unexpired term of Anne Anastasi; 1946-48, Fred S. Keller, Columbia University, to fill the unexpired term of J. McV. Hunt. The Board of Directors appointed as member of the program committee, 1946-49, Leo P. Crespi, Princeton University; as representative on the Council of the American Association for the Advancement of Science, 1946-48, Elaine F. Kinder, Rockland State Hospital, Orangeburg, N. Y.; and as the Auditing Committee, Robert T. Rock and Joseph G. Keegan, S.J., Fordham University.

The following actions were taken at the annual business meeting:

1. Proceedings of the 1945 meeting as printed in the *Psychological Bulletin* were accepted.

2. The reports of the secretary and the treasurer were accepted, and a budget totaling \$975 was adopted for the year 1946-47.

3. Ninety-nine applicants for membership were taken into the Association on recommendation of the Board of Directors.

4. It was voted that after May 1, 1947, there shall be no remission of dues on account of military service.

5. On recommendation of the Board of Directors it was voted to set up a membership committee of two, appointed by the President, to serve for one year with the function of recommending to the Board acceptance or rejection of applicants for membership in the Eastern Psychological Association.

6. On recommendation of the Board of Directors it was voted that the President appoint a committee on professional ethics of five members to formulate the principles under which a standing committee in this field could operate and for the current year to consider any problems that may arise, making in respect to them such recommendations to the Board as seem advisable.

7. On recommendation of the Board of Directors it was voted the Secretary be instructed to draw up revisions of the by-laws pertaining to election to membership, adjusting the by-laws to changes in titles of membership in the American Psychological Association and establishing a committee on mem-

bership to review the applications for membership in the Eastern Psychological Association and report to the Board.

8. It was voted to empower the Board of Directors to select a suitable place for the 1947 meeting.

9. It was voted to accept the invitation of Temple University to meet there in the spring of 1948.

10. It was voted to have the President prepare a memorial stating that the Eastern Psychological Association go on record as favoring immediate enactment of the current science legislation, Kilgore-Magnuson Bill, S. 1850.

11. A resolution thanking President Gannon, the Department of Psychology and the Local Committee on Arrangements for their kind hospitality and excellent provision for our meeting was unanimously adopted.

The financial statement for the fiscal year 1945-46, prepared by the Treasurer and verified by the Auditing Committee, is as follows:

FINANCIAL STATEMENT AS OF MAY 10, 1946

For the Fiscal Year 1945-46

INCOME

Membership Dues	
Dues for the current year (1945-46).....	\$563.00
Arrears for 1944-45.....	83.00
Arrears for earlier years.....	28.00
Advance payments.....	4.00
Guest Fees.....	520.00
Interest on Savings Account.....	20.47
Total Income.....	1218.47

EXPENDITURES

Publication of Proceedings.....	31.86
Office of the Secretary.....	201.40
Office of the Treasurer.....	70.75
Travelling Expenses of Officers.....	4.50
Printing and Stationery.....	174.44
Postage.....	92.28
Miscellaneous Supplies and Expense.....	10.51
Program Committee.....	22.94
Local Expense, CCNY Meeting (1945)....	7.13
Local Expense, Fordham Meeting (1946)..	79.09
Room for Directors' Meeting.....	15.00
Bank charges.....	.60
Total Expenditures.....	710.50
Surplus for 1945-46.....	507.97

BALANCE SHEET

Cash: Fifth Avenue Bank of New York . . .	969.38	
New York Savings Bank	2033.31	
Petty Cash (Secretary)	20.00	
Petty Cash (Treasurer)	20.00	
Total Cash	3042.69	
Capital: As of May 1, 1945	2543.72	
Surplus for 1945-46	507.97	
Total Capital	3042.69	

PROGRAM

CLINICAL

Chairman: ROSE G. ANDERSON, Psychological Corporation

Patterns in Clinical Services. ANNA S. STARR, Rutgers University.

The Effect of Bilingualism upon the Measurement of the Intelligence of Children of Preschool Age. NATALIE T. DARCY, Fordham University. (Introduced by William A. Kelly, Fordham University.)

Recombination of Ideas in Creative Thinking. LIVINGSTON WELCH, Hunter College.

Relation to Reality-A practical clinical concept (Advancement in research with Horn-Hellersberg test). ELIZABETH HELLERSBERG.

The Psychologist Deals with the Problem Parents of a Problem Child. ELINORE B. TROWBRIDGE, Boston University. (Introduced by Wayland F. Vaughan, Boston University.)

Demonstration of Film on Visual Agnosia. ALEXANDRA ADLER, Duke University. (Introduced by Gordon W. Allport, Harvard University.)

ABNORMAL

Chairman: CARNEY LANDIS, New York Psychiatric Institute and Hospital

Disturbances in Visual Perception of Motion Following Brain Injuries. HANS-LUKAS TEUBER, U. S. Naval Hospital; MORRIS B. BENDER, U. S. Naval Hospital.

The Effect of Prolonged Mild Anoxia on Sleepiness, Irritability, Boredom, and other Subjective Conditions. G. MILTON SMITH, City College.

Conditioned PGR (Psychogalvanic Response) in States of Pathological Anxiety. J. KUBIS, Fordham University; L. WELCH, Hunter College;

OSKAR DIETHELM, Payne Whitney Psychiatric Clinic.

Somatotypes in Relation to Psychoses. LEOPOLD BELLAK, St. Elizabeth's Hospital; ROBERT HOLT, Dept. of Agriculture.

Psychiatric Categories and Intellectual Level. A. I. RABIN, New Hampshire State Hospital.

LEARNING AND CONDITIONING

Chairman: LEONARD CARMICHAEL, Tufts College

A Theoretical Derivation of Latent Learning. JOHN P. SEWARD, Boston University.

The Principle of Concreteness in the Formation of the Number Concept. ANITA RIESS, William Penn College.

Retroactive Inhibition as a Function of Temporal Point of Interpolation. LEO J. POSTMAN, Harvard University; THELMA G. ALPER, Harvard University.

The Relation of Intraserial Phenomena to the Acquisition Curve for Nonsense Syllables. BEVERLEY BISHOP, University of Rochester.

Factors of Confusion in Recognition. HOWARD L. KINGSLEY, Boston University.

The Effect of an Extra Stimulus Upon Strength of Response During Acquisition and Extinction. WILMA E. ARTUS, Columbia University; J. McV. HUNT, Brown University.

A Contribution of a Medieval Arab Scholar to the Problem of Learning. THEODORA M. ABEL, Letchworth Village; G. E. GRUNEBaum, University of Chicago.

PERSONALITY

Chairman: J. McV. HUNT, Brown University

Experiments on the Personality of Preschool Children. WERNER WOLFF, Bard College.

The Impact of a Children's Story on Mothers and Children. MARTHA WOLFENSTEIN, Hunter College.

A Study of Personality Characteristics of Effective and Ineffective Students. J. R. WITTENBORN, Yale University.

Norms for the Picture Story Method. PERCIVAL M. SYMONDS, Columbia University.

Mental Hygiene in the Disabling Diseases. MORTON A. SEIDENFELD, National Foundation for Infantile Paralysis.

Frustration, Emotion, Mechanism and Social Behavior. S. STANSFELD SARGENT, Columbia University.

ROUND TABLE ON PROJECTIVE TECHNIQUES

Chairman: BRUNO KLOPPER, City College

Preliminary Report of Rorschach Studies of Nazi War Criminals in Nuremburg. LT. COL. DOUGLAS M. KELLEY.

Rorschach and T.A.T. Records of Successful Artists. ANNE ROE, Yale University.

Rorschach Observations on Students Showing Different Performance Patterns on the A.C.E. Test. RUTH MUNROE, Sarah Lawrence.

The Role of Projective Techniques in the Diagnosis of Reading Difficulties. PAULINE G. VORHAUS, New York University.

Sex Shock and its Diagnostic Significance in the Thematic Apperception Test. FREDERICK WYATT, McLean Hospital.

COMPARATIVE

Chairman: LOUIS W. MAX, New York University

Individual and Group Hoarding in Rats. GEORGE A. MILLER, Harvard University; LEO J. POSTMAN, Harvard University.

Effects of Enforced Wakefulness Upon the Growth and Maze-learning Ability of White Rats. J. C. R. LICKLIDER, Harvard University; M. E. BUNCH, Washington University.

Hormonal Control of Bisexual Mating Behavior in the Male Rat. FRANK A. BEACH, American Museum of Natural History.

*Factors Influencing the Spawning Frequency of the Female Cichlid Fish, *Tilapia Macrocephala*.* LESTER R. ARONSON, American Museum of Natural History. (Introduced by Frank A. Beach, American Museum of Natural History.)

CLINICAL

Chairman: DOROTHEA MCCARTHY, Fordham University

The Test Results of 60 Alcoholic Patients on the Wechsler-Bellevue Scale. LOWELL S. TROWBRIDGE, Boston University.

Standardization of the Inter-Society Color Council Color Aptitude Test. FORREST LEE DIMMICK, Hobart College.

An Evaluation of Two Short Industrial Intelligence Tests. VERA KILSTEIN, Boston University. (Introduced by Lowell S. Trowbridge, Boston University.)

A Study of the Applicability of the Hunt-Minnesota Test for Organic Brain Damage to Children Between the Ages of Ten and Sixteen. SONIA A. AVAKIAN, Fordham University. (Introduced by Dorothea McCarthy, Fordham University.)

The Stress Tolerance Test. M. R. HARROWER, New York City; ROY R. GRINKER, Chicago, Illinois.

AUDITION

Chairman: E. G. WEVER, Princeton University

The Relative Annoyance Produced by Various Bands of Noise. K. D. KRYTER, Harvard University; T. W. REESE, Mt. Holyoke College.

The Effect of Duration on the Masked Threshold of Tones. WENDELL R. GARNER, Johns Hopkins University; GEORGE A. MILLER, Harvard University. (Introduced by S. S. Stevens, Harvard University.)

The Temporal Course of Stimulation Deafness in Human Ears. JAMES P. EGAN, Harvard University. (Introduced by S. S. Stevens, Harvard University.)

Efferent Connections of the Primary Acoustic Projection Area of the Cat. MERLE MILLER, University of Rochester. (Introduced by John D. Coakley, University of Rochester.)

SENSATION AND PERCEPTION

Chairman: EDWARD GIRDEN, Brooklyn College

An Experimental Investigation of the Effect of Changes in Atmospheric Conditions and Noise Upon Performance. MORRIS S. VITELES, University of Pennsylvania; KINSLEY R. SMITH, Pennsylvania State College.

The Relationship Between Speed and Accuracy in a Perceptual Task. B. R. PHILIP, London, Canada.

An Experimental Study of Depth Perception in Experienced Pilots During Landings. CARL PFAFFMANN, Brown University.

Age and Sex Differences in Monocular and Binocular Critical Flicker Frequency. HENRY MISIAK, Fordham University. (Introduced by Robert T. Rock, Fordham University.)

The Effect of Rotational Axis and Dimensional Variations on Reversals of Apparent Movement in Lissajous Figures. VINCENT R. FISICHELLI, Fordham University. (Introduced by Dorothea McCarthy, Fordham University.)

SOCIAL

Chairman: RICHARD S. CRUTCHFIELD, Swarthmore College

The Structure of Race and Nationality Attitudes. LYLE H. LANIER, Vassar College.

A Study upon the Validity of the Lentz C-R Opinionnaire (Conservatism-Radicalism). ROY K. HEINTZ, Princeton University. (Introduced by L. P. Crespi, Princeton University.)

College Students' Insight into an Industrial Conflict. JAMES LARMOUR GRAHAM, Lehigh University.

The Science Talent Search in Relation to Educational and Economic Indices. HAROLD A. EDGERTON, Ohio State University; STEUART HENDERSON BRITT, McCann-Erickson, Inc.

Forming Impressions of Personality. S. E. ASCH, New School for Social Research.

PRESIDENTIAL ADDRESS

Mind and Mechanism. EDWIN G. BORING, Harvard University

PANEL DISCUSSIONS

The Development of Occupational Fields for Psychologists. MORRIS VITELES, University of Pennsylvania, Moderator. Participants: Government: RENSIS LIKERT, U. S. Department of Agriculture; Public Opinion: HADLEY CANTRIL, Princeton University; Industrial: JOHN G. JENKINS, University of Maryland; Advertising: OTTO TINKELPAUGH, J. M. Mathes Co.; Radio: JOHN G. PEATMAN, City College; Clinics: LAURANCE SHAFFER, Columbia University.

The Universities' Program for Graduate Professional Training. WALTER R. MILES, Yale University, Moderator. Participants: CARL I. HOVLAND, Yale University; RICHARD WENDT, University of Rochester; GARDNER MURPHY, City College; ROBERT BROTEMARKLE, University of Pennsylvania.

PROCEEDINGS OF THE SECOND ANNUAL MEETING OF THE PSYCHOLOGICAL ASSOCIATION OF THE PROVINCE OF QUEBEC

DOUGLASS BURNS CLARKE, SECRETARY

Sir George Williams College

THE second annual meeting of the Psychological Association of the Province of Quebec was held in the Psychology Department of McGill University on Saturday, April 6th, 1946. This year the meeting took the form of a full-day conference with presentation of papers by members, a discussion panel, and a dinner at which Dr. Dael Wolfe, Executive Secretary of the American Psychological Association, was the guest speaker. Total attendance at the day's meeting was one hundred and six members and guests.

The annual meeting and spring conference opened at 10:00 A.M., following a registration period. The morning's program consisted of the presentation of technical papers by members. The following papers were presented:

Miss E. MILNER, *Developing a Group Guidance Programme.*

Fr. B. LAURIER, *Communication sur une Recherche Relative au Problème d'orientation de la Jeunesse Etudiante.*

Mr. WM. HYMOVITCH, *Factors in Leadership.*

Mr. GILLES YVON MOREAUX, *Elaboration d'un Test.*

Mlle. THERESE GOUIN, *Dessin et Histoire: Méthode de Projection Infantile.*

Mr. HERBERT LANSDELL, *Prejudice and Logic.*

Mr. ROLAND LUSSIER, *Thyroïde vs Conscience du Q.I.*

Mrs. ENID HOBART, *The Process of Liberation of the Child in the Pre-School Environment.*

Mr. R. F. CLARKE, *Labour Turnover in Industry.*

Mrs. M. HOFFMAN, *Attitudes toward Older People in Industry.*

Mr. R. FAGIURI, *Facts Emerging from Comparisons of 1937 Binet Vocabulary and Wechsler-Bellevue Vocabulary Scales.*

Mrs. R. SOFIN, *The Functions of a Placement Agency.*

Fère N. MAILLOUX, *Conscience et Super-ego.*

The first part of the afternoon's meeting was devoted to a panel presentation and discussion on "The Professional Training of the Applied Psychologist" under the chairmanship of Dr. K. E. Norris.

In the business meeting which followed, the officers of the Association for the year 1946-47 were elected. These were:

Past President, Father N. Mailloux

President, Dr. Frances Alexander

Vice President, Dr. Roland Vinette

Secretary, Prof. Douglass Burns Clarke

Asst. Secretary, Dr. Paul L'Archevesque

Treasurer, Dr. Gilles Yvon Moreau

Chairman of the Committee on Certification and Training, Dr. J. S. A. Bois

Chairman of the Committee on Research, Dr. E. C. Webster

The following were elected members of the Committee on Certification and Training: Brother B. Laurier, Mr. F. R. Clarke, Brother Luc, Miss Agnes Matthews, M. Louis Moreault, Mrs. Verity Mitchell Ross, Dr. J. E. A. Marcotte, Dr. Heinz Lehmann, Dr. J. Tuckman, M. Jean Marc Chevrier.

The following were elected members of the Committee of Research: Dr. C. E. Kellogg, Dr. Paul L'Archevesque, Father N. Mailloux, Dr. J. W. Bridges, Brother Dominique, Dr. Ewen Cameron.

The dinner meeting was held at the Cercle Universitaire. Dr. Dael Wolfe of the American Psychological Association gave an address upon the "Needs of Psychology". He stressed the point that psychology needed to reexamine its preparation of psychologists or the field might become overcrowded with ill-trained and ill-prepared men. He emphasized three points. It has become necessary, he said, to pay more attention to the proper selection of people going into the field of psychology as a career, to plan more carefully the proper training of the psychologist, and to re-examine and standardize the contents of courses in psychology.

Across the Secretary's Desk

THE FIFTY-FOURTH ANNUAL MEETING OF THE APA

Two thousand people attended the fifty-fourth annual meeting of the American Psychological Association in Philadelphia September 3 to 7—fifty per cent more than ever before. In this first full meeting under the new constitution, there was much business for each of the divisions to transact and many new scientific developments and professional problems to consider. Business meetings, symposia, and papers were well attended; headquarters, lounges, and hotel rooms were full of psychologists getting together again in their annual convention. One of the most frequent complaints was that rooms were not large enough.

The Association has outgrown campus facilities. Both faculty and students of the University of Pennsylvania worked very hard to provide the excellent accommodations and arrangements that the Association enjoyed. But caring for 2000 guests is too much of a burden to ask of even a large department of psychology. The Council therefore accepted invitations to meet at the Hotels Book-Cadillac and Statler in Detroit on September 9 to 13, 1947, and at the Hotel Statler in Boston, September 7 to 11, 1948.

The Council made two important changes in the procedures for electing Associate members of the APA. The first change requires an amendment to the By-Laws. That amendment will be submitted to the membership for mail vote next spring. If it passes, it will no longer be necessary for every member of the Association to be a member of one or more of the divisions. They may still belong to divisions, and most of them undoubtedly will, but division membership will no longer be mandatory.

The second change delegates responsibility for election of Associates and transfer of Associates to Fellows to the Board of Directors. That delegation of authority will allow the Board of Directors to elect Associates and Fellows at its March meeting. The change from September to March will lighten the heavy business schedule of the September meeting and will allow more careful consideration of

candidates than is possible in September. A more important effect will be to put election to the APA and election to the divisions approximately six months apart. The six-month separation will ease the election problem for the APA and for all divisions. Under the new system, applicants for Associate membership will submit their applications to the APA, not to the divisions, any time before March first. In March, the APA will elect all qualified applicants, date their membership from the previous January first, and inform them that they are now in the APA and can apply to any division or divisions of their choice. The divisions can then consider their own applicants, knowing that they have already met minimum APA requirements, and in September can elect those who qualify. For election of Fellows, the order will be reversed. In September each division can nominate any of its members who are qualified as Fellows. These nominations will then be considered by the APA Board of Directors in March.

An amendment to create a class of Foreign Affiliates was approved by the Council. Members will vote on the amendment next spring. Foreign Affiliates will be persons who desire affiliation with the APA and who are members of psychological associations in their own country or who meet other similar requirements. Their dues and privileges will be the same as those of Division Affiliates.

Plans were agreed upon for the permanent location of the APA office in the American Association for the Advancement of Science Building in Washington. The Washington office of the APA is now occupying one floor of a large residence recently purchased by AAAS. The new address is 1515 Massachusetts Avenue, N.W., Washington 5, D. C. The AAAS intends to replace the present structure with a modern office building as soon as conditions permit. The building planned will provide office space not only for the AAAS but also for a number of other societies affiliated with the AAAS. Financing will be on a share-the-expense basis, as it is now for the AAAS and the APA, with the AAAS providing property management. The Council of Representa-

tives decided that the APA wished to maintain its offices permanently in the AAAS building. Accordingly, it voted to donate the sum of \$5000 from the 1946 budget to the AAAS building fund and to set aside \$5000 from the 1947 budget for an APA building fund. If future Boards of Directors set aside like sums, money will be available for us to purchase space for permanent headquarters when the new AAAS building is constructed. Provision was made by the Council for individual members of the Association to make personal donations to the APA building fund.

One of the most important of the committee reports was from the Committee on Graduate and Professional Training. In response to a request from the Veterans Administration, that committee had studied the training facilities available in each of the major universities of the country, and had prepared a list of schools recommended for training to the Ph.D. level in clinical psychology. The committee was instructed to continue its work in examining graduate training facilities and to prepare lists of schools in response to two requests from the United States Public Health Service and the Federal Security Agency. Although this action was taken, it was recognized that it did not solve permanently the problem of accreditation of graduate training facilities. The APA therefore created a Committee of University Department Chairmen consisting of the chairmen, or their representatives, of the 33 universities which granted ten or more Ph.D.'s in the period 1934 to 1942. The new committee was instructed to study methods of appraising and accrediting graduate training. It held an initial meeting in Philadelphia with all 33 members present.

The Committee on Standards for Psychological Service Centers recommended that it be reconstituted. The committee had consisted entirely of clinical psychologists. It felt that the membership should include psychologists rendering other types of service before the committee could complete its assignment of preparing a directory of psychological service agencies throughout the country. The recommendation was adopted by the Council, which named W. Clark Trow and Jerry W. Carter, Jr. as members with the understanding that the committee would add other members and that it would attempt to prepare the directory within the coming year.

The Election Committee announced that the amendment authorizing the creation of an American Board of Examiners in Professional Psychology had been approved by a large majority in a mail ballot last spring. In anticipation of that action, the Council last winter appointed a Committee on the American Board of Examiners in Professional Psychology with Carlyle F. Jacobsen as chairman. The committee recommended the creation of a separately incorporated Board of Examiners in Professional Psychology whose members would be elected by the Board of Examiners upon nomination by the APA Council of Representatives. The recommendation and the tentative by-laws of the new Board of Examiners were approved by the Council of Representatives. Actual election of the initial members of the Board of Examiners was postponed until after the interested divisions have had an opportunity to study the proposed by-laws and to suggest nominees for membership. If the divisions approve, and several of them did at Philadelphia, the election of the initial members will be conducted by mail vote of the Council of Representatives this fall.

The Board of Directors spent all of Tuesday and Wednesday preparing materials which the Council of Representatives considered in a five-hour session on Wednesday evening. In light of the interest of many members in making the APA a truly democratic organization it is pertinent to ask how well this meeting of elected representatives functioned in comparison with the "town-meeting" session under the old constitution. The attendance was proportionately better than it used to be. Not all Council members stuck it out to the sleepy end; but how many members would sit through a five-hour business meeting?

To replace the old business meeting the new constitution calls for an open meeting at which the Council reports to the members on the business of the Association. That meeting was held Thursday afternoon with more members attending than were present at many an old-style business meeting. A frequently-heard comment afterwards was that those attending learned more about the Association's business than they used to in business meetings.

The full proceedings of the meeting will be published in the November issue of the *AMERICAN PSYCHOLOGIST*.—DAEL WOLFE

Psychological Notes and News

C. M. LOUITT has been appointed dean of Sampson College, Sampson, N. Y., which has been established by the Associated Colleges of Upper New York. Replacing Dr. Louttit as professor of psychology at The Ohio State University will be GEORGE A. KELLY, formerly of the University of Maryland. WILLIS C. SCHAEFER, who has been with the Personnel Division of the Department of Agriculture, has joined the department of psychology at the University of Maryland as an assistant professor.

HENRY BOROW has been granted a leave of absence by The Pennsylvania State College in order to accept a position as associate professor of vocational orientation in the General College of the University of Minnesota.

RALPH O. VAN WATERS and JEROME G. SACKS have announced the opening of their offices as personnel consultants in Boston, Massachusetts.

EDWARD S. BORDIN has accepted an appointment as associate professor of psychology and director of the Student Counseling Center at Washington State College, Pullman, Washington.

DWANE R. COLLINS has accepted a position as assistant professor of education in charge of guidance, School of Education, University of Connecticut, Storrs, Connecticut. He has been placement officer with the National Advisory Committee for Aeronautics in Washington, D. C.

RALPH M. STOGDILL, formerly director of research at the Ohio Bureau of Juvenile Research, has been appointed research associate for the studies of leadership at The Ohio State University. The Personnel Research Board of the University is sponsoring a five-year study entitled "Leadership in a Democracy." Dr. Stogdill will be concerned particularly with the studies to be made in cooperation with the United States Navy.

LILLIAN M. JOHNSON, formerly assistant professor of psychology at Western Kentucky State Teachers

College, has been appointed assistant dean of women at the University of Cincinnati. During the war Dr. Johnson served as a Lieutenant in the U.S. Naval Reserve.

GEORGE E. STAUFFER, 2nd Lt., AGD, has returned to his former position as a teacher of children with retarded mental development with the Board of Education of the City of New York. He had been serving as Chief Clinical Psychologist at the Regional Hospital, Ft. McClellan, Alabama.

LAMBERT DE NOOYER, Major, AGD, released from active duty with the Army, is now associated with the Veterans Administration Guidance Center of Stevens Institute of Technology at Hoboken, N. J. Major De Nooyer served for more than four years as a personnel consultant and military psychologist at various army installations.

JANE D. MORGAN has been appointed Assistant Chief Clinical Psychologist for Training and Personnel in the Veterans Administration.

SOL L. GARFIELD has been appointed chief psychologist at the Veterans Hospital, Mendota, Wisconsin.

JESSE B. RHINEHART, assistant professor of clinical psychology at the University of Illinois, has been placed in charge of the Psychological Clinic of the University of Illinois for the 1946-47 academic year.

AGNES A. SHARP, chief psychologist and director of research at the Psychiatric Institute of the Municipal Court of Chicago, has been awarded a citation for public service by the Alumni Association of the University of Chicago.

ADOLF MANOIL has been appointed professor of psychology at Park College, Parkville, Missouri.

HENRY D. MEYER has been appointed assistant professor of psychology at Massachusetts State College.

JACOB S. KOUNIN has accepted a position in the College of Education at Wayne University.

NEIL R. BARTLETT, assistant professor of psychology at the Johns Hopkins University, has been awarded a Commendation Ribbon by the Commander in Chief, United States Atlantic Fleet, "For meritorious service as a member of the Medical Research Group at the United States Submarine Base, New London, Connecticut, during the period from July 1943 to September 1945. . . . Lieutenant (junior grade) Bartlett's continuous and outstanding performance of duty in the conducting of research in personnel selection tests and devices employed in the submarine selection program resulted in the selection of outstanding submarine personnel."

MAX M. LEVIN has been appointed assistant professor of psychology at the University of Wyoming. During the war he was associated with the Applied Psychology Panel of the National Defense Research Committee.

LEAH BROOKS has accepted a position at the New Jersey State Village for Epileptics at Skillman, N. J.

SAMUEL S. DUBIN has been appointed chief psychologist at the Psychopathic Hospital, the University of Colorado School of Medicine and Hospitals.

Rohrer, Hibler and Replogle have announced that H. E. GEIGER, formerly professor of psychology at Albion College, RAY S. MILLER, formerly chairman of the department of psychology at Knox College, and PHIL W. BUCK, formerly professor of psychology at the University of Toledo, have been appointed to their staff. Dr. Buck will be associated with Ralph W. Ogan, regional director of the Dallas, Texas office.

JOHN D. ADAMS has joined the U. S. Public Health Service as a psychologist at the U. S. Penitentiary at Atlanta, Georgia.

OLIVER L. LACEY has been appointed professor and chairman of the department of psychology and PAUL S. SIEGEL has been promoted to assistant professor in the department of psychology at the University of Alabama.

MARY JEFFERY has accepted a position as an assistant professor of psychology at Macalester College in St. Paul, Minnesota.

ARTHUR LICHTENSTEIN has been appointed assistant professor of education at the Johns Hopkins University where he will be in charge of the Educational Consultation Service. He will continue to serve as consulting psychologist to the Baltimore Public Schools. Dr. Lichtenstein was formerly supervisor in charge of the Child Guidance Clinic of the Baltimore City Schools and has recently been released from the Army where he served as psychologist in the Third Service Command.

Six appointments have recently been made in the department of psychology at Union College. They include CHARLES A. GODCHARLES, industrial psychologist, and REX M. COLLIER, vocational counseling specialist, as associate professors; RICHARD S. DOTY, MERVYN M. MORSE, and JOSEPH R. BOGLE as research fellows; and MARGARET K. STEVENS as research associate.

The Vineland Laboratory has announced several changes in the professional staff of the Research Department of the Training School at Vineland, New Jersey. PARKER DAVIS, JR. has resigned as chief clinician to accept appointment as assistant dean of men at Rutgers University. S. ROY HEATH, JR., research psychologist, has resigned to continue graduate study at the University of Pennsylvania. HAROLD S. DANENHOWER, formerly Captain, AGD, Research Section of the Classification and Assignment Branch of the Adjutant General's Department, has accepted appointment as research psychologist. RUDOLF LASSNER, formerly psychologist at the State Training School, Red Wing, Minnesota, has been appointed clinical psychologist. PATRICIA CORCORAN has been appointed research intern.

Northwestern University has accepted a Navy contract for research on abbreviated individual intelligence tests. The work will be done under the direction of Professor WILLIAM A. HUNT with Professor HERBERT F. WRIGHT as consultant. SEYMOUR G. KLEBANOFF is assistant director. IVAN N. MENSCH and MEYER WILLIAMS are also associated with the project.

The psychology department at Michigan State College has recently had several changes in its staff. JOSEPH M. BOBBITT and SIDNEY H. NEWMAN have resigned to accept appointments as Lieutenant Commanders in the U. S. Public Health Service. Commander Bobbitt will be stationed at Bethesda, Maryland; Commander Newman will be at the U. S. Coast Guard Academy, New London, Connecticut. EDGERTON L. BALLACHEY has resigned to accept a position with the Office of the Secretary of War. To replace these resigned members and to expand the department, a number of appointments have been made. HAROLD H. ANDERSON, associate professor at the University of Illinois, has been appointed professor of psychology and chairman of the department. ALBERT K. KURTZ, formerly research associate with the Life Insurance Sales Management Agency, has been appointed associate professor. Appointments as assistant professors have been accepted by FRED V. BILLINGSLEA, MAURICE RAY DENNY, JACK R. GIBB, ADOLPH A. KLAUTSCH, and SHERWOOD C. MCINTYRE.

The Psychology Branch in the Aero Medical Laboratory, Engineering Division, Wright Field, Dayton, Ohio, has completed its first year of existence. The branch is assigned responsibility for research on psychological problems in the design of aviation equipment used by the Army Air Forces. Major efforts are directed toward basic research on principles governing human capacities in the use of instruments and controls operated by pilots, navigators, bombardiers, radar operators, and gunners. Being a part of the Engineering Division which controls the development of all Army Air Forces materiel, the branch is directly associated with engineers who encounter human problems in equipment design and who can apply the results of psychological research. The branch is also a part of the AAF Aviation Psychology Program. The psychologically trained personnel of the branch as of September 1, 1946 consisted of PAUL M. FITTS (director), SALLY J. BEDWORTH, LAUNOR F. CARTER, JULIEN M. CHRISTENSEN, SHIRLEY C. CONNELL, SUE S. DIGGLES, WALTER F. GREYER, WILLIAM O. JENKINS, NORMAN L. MURRAY, H. RICHARD VAN SAUN, MELVIN J. WARRICK, KATHARINE D. YOUNG. Of these Launor F. Carter has accepted

a position in the department of psychology at the University of Rochester, and William O. Jenkins, a position at Indiana University. JOHN T. COWLES was in the branch for a short time while awaiting a transfer to the Psychological Research Project (Pilot) at Randolph Field, Texas. JUDSON S. BROWN departed recently for a position at the University of Iowa, and ALBERT P. JOHNSON left during the summer to join the staff at Purdue University. Other psychologically trained personnel who served with the branch at some time prior to their separation from the military service were MURRAY ABORN, MORTON B. ALLENSTEIN, JAY R. BRICK, WALTER T. BROWN, ARTHUR Z. CERF, ROBERT M. GAGNE, ROBERT T. JOSEPH, ALBERT PEPTONE, IRVING ROBBINS, RALPH E. SHOWALTER, NEIL P. STAUFFER, JEROME WAGNER, and WILSE B. WEBB. Additional professional psychologists and technicians are being added to the staff to continue the conversion to a permanent research organization composed primarily of civilian personnel.

The Purdue Industrial Personnel Testing Institute, a special two-week intensive course in industrial personnel tests, will be given October 14 to October 26, 1946. The course is open to representatives of industries that now have a personnel testing program in operation or are considering the use of personnel tests. The Institute staff will consist of JOSEPH TIFFIN, C. H. LAWSHE, E. EDGAR WIRT, E. J. ASHER, A. C. ECKERMAN. Enrollment is limited to the first fifty applications received. Further information may be obtained from the Industrial Personnel Testing Institute, Purdue University, Lafayette, Indiana.

The Southbury Training School, an institution for mental defectives and epileptics, invites applications for the job of clinical psychologist. Salary range is \$3,000-3,720. The sum of \$316 is deducted for complete maintenance. Previous experience in clinical psychology is necessary. The major duties of the position are administering the testing program, conducting research, and doing therapeutic work with problem children. Applications should be sent to Mr. E. N. Roselle, Superintendent of the Southbury Training School, Southbury, Connecticut.

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

Date: September 9-13, 1947

Place: Detroit, Michigan

For information write to:

Dr. Dael Wolfe, Executive Secretary
American Psychological Association
1515 Massachusetts Avenue, N. W.
Washington 5, D. C.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Date: December 28-30, 1946

Place: Boston, Massachusetts

For information write to:

Dr. H. A. Meyerhoff, Executive Secretary
American Association for the Advancement of Science
1515 Massachusetts Avenue, N. W.
Washington 5, D. C.

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Date: May, 1947

Place: Colorado College
Colorado Springs, Colorado

For information write to:

Dr. Lillian G. Portenier
Department of Psychology
University of Wyoming
Laramie, Wyoming

THE SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

Date: April 4-5, 1947

Place: St. Louis, Missouri

For information write to:

Dr. Joseph Weitz
Sophie Newcomb College, Tulane University
New Orleans, Louisiana

SOUTHWESTERN PSYCHOLOGICAL ASSOCIATION

Date: April 4-5, 1947

Place: Dallas, Texas

For information write to:

Dr. L. B. Hoisington
Department of Psychology
University of Oklahoma
Norman, Oklahoma

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

Date: May 2-3, 1947

Place: Edgewater Beach Hotel
Chicago, Illinois

For information write to:

Dr. Claude E. Buxton
Department of Psychology
Northwestern University
Evanston, Illinois

WESTERN PSYCHOLOGICAL ASSOCIATION

Date: June, 1947

Place: Los Angeles
(host institution to be announced)

For information write to:

Dr. Lester F. Beck
Department of Psychology
University of Oregon
Eugene, Oregon

ILLINOIS ASSOCIATION FOR APPLIED PSYCHOLOGY

Date: October 24, 1946

Place: Chicago, Illinois

For information write to:

Dr. Milton A. Saffir, Director
Psychological Guidance Center
55 East Washington St.
Chicago 2, Illinois

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